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ST. LOUIS DISTRICT HISTORIC PROPERTIES MANAGEMENT REPORT NO. 43

A PHASE 1 ARCHAEOLOGICAL SURVEY FOR HISTORIC
PROPERTIES WITHIN THE BATCHTOWN HABITAT
REHABILITATION ENHANCEMENT PROJECT (HREP),
ENVIRONMENTAL MANAGEMENT PROGRAM (EMP),
POOL 25, MISSISSIPPI RIVER, CALHOUN COUNTY, ILLINOIS

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St. Louis District Historic Properties
Report No. 43

A Phase 1 Archaeological Survey for Historic Properties
Within the
Batchtown Habitat Rehabilitation Enhancement Project (HREP),
Environmental Management Program (EMP)
Pool 25, Mississippi River, Calhoun County, Illinois

Contract No. DACW43-92-D-0501
Delivery Order # 2

Prepared for

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ABSTRACT

This report describes the results of a Phase I archaeological and geomorphological investigation of a 121 acre area within the Batchtown Habitat Rehabilitation Enhancement Project (HREP), located in Navigation Pool 25, Mississippi River (mile 242 to mile 248 along the left bank), Calhoun County, Illinois. The project area consists of the construction corridors of the existing and proposed exterior and interior levees, and the locations of the seven proposed water control structures to be constructed in areas undisturbed by previous construction. This work was carried out by American Resources Group, Ltd., under terms of a contract with the St. Louis District, U.S. Army Corps of Engineers.

The results of the geomorphological investigation indicate that a thick layer of historical alluvium (PSA) covers most of the project area. The historical deposits covering the northwestern and southwestern portions of the project area extend below the maximum depth of construction impact, and are underlain by poorly-drained, late Holocene to historic floodplain surfaces. The northwestern and southwestern portions of the project area are judged to have very little potential for containing cultural deposits.

A thin deposit of PSA (0-45 cm) caps most of the early to mid Holocene surface identified within the central portion of the project area, indicating the maximum depth of construction impact (30 cm) may in places extend below the historical deposit covering this portion of the project area. The central portion of the project area also has some potential for containing buried sites, although these deposits, if present, are apt to occur within the construction impact zone only in the construction locations of the water control structures. Backhoe trenching was used to examine the construction location of the one water control structure that could be investigated, but no cultural material was observed during careful examination of the trench walls.

A literature and records review indicated that two previously-recorded prehistoric sites are located within the Batchtown HREP, but that neither is located in the project area. Seven sites were recorded during the field survey, including three prehistoric sites (11-C-206, 11-C-208, 11-C-209), three historic sites (11-C-205, 11-C-207, 11-C-211), and one site containing both prehistoric and historic components (11-C-210).

Sites 11-C-207, 11-C-208, 11-C-209, and the prehistoric and historic components at 11-C-210 are evaluated as potentially eligible for listing to the National Register of Historic Places (NRHP). Sites 11-C-207, -208, and -209 will not be impacted by the revised project, but Phase II testing will be necessary at these sites should future changes in the project plans result in their being impacted. It is recommended that Phase II test excavations be conducted at site 11-C-210 in order to further document the NRHP

eligibility of its prehistoric and historic components if the site cannot be avoided as the project is presently planned.

Due to their lack of integrity and relatively recent age, sites 11-C-205, 11-C-206, and 11-C-211 are evaluated as not potentially eligible for inclusion on the NRHP. No further work is recommended at these sites.

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CHAPTER I. INTRODUCTION

This report describes the results of a Phase I archaeological and geomorphological investigation within the Bathtown Habitat Rehabilitation Enhancement Project (HREP), Environmental Management Program (EMP) project area. The Bathtown HREP project area is located in Navigation Pool 25, Mississippi River (mile 242 to mile 248 along the left bank), Calhoun County, Illinois (Figures 1,2, and 3). This research was funded by the U.S. Army Corps of Engineers and administered by the St. Louis District, St. Louis, Missouri, as part of Contract No. DACW43-92-D-0501.

The Bathtown HREP is a part of the Environmental Management Program established by PL-99-662 to enhance and rehabilitate the Upper Mississippi River system. The project area is located on Corps of Engineers fee land managed by the Illinois Department of Conservation (IDOC) and the U.S. Fish and Wildlife Service (FWS). The southern portion of the project area is contained within the Bathtown State Fish and Waterfowl Management Area (IDOC), and the northern portion is contained within the lower half of the Bathtown Division, Mark Twain National Wildlife Refuge (FWS). The purpose of the Bathtown HREP is to improve wetland and aquatic habitats for waterfowl and fish by decreasing sedimentation and improving water level control in open wetland units. Accordingly, the St. Louis District is proposing to enlarge an existing riverside (exterior) levee and an interior levee, and to construct a riverside (exterior) levee, an interior levee (proposed at the time of survey, however, has since been dropped from the project), five borrow areas, nine gravity drains, four overflow structures, eight stop log drainage structures, three boat pullovers, four pump stations, and two concrete pipes with gates within Dam 25 (Figure 2). The project area consists of the construction corridors of the existing and proposed exterior and interior levees, and the locations of the seven proposed water control structures to be constructed in areas undisturbed by previous construction. The total area contained in the project area is approximately 121 acres.

The study performed herein by the Contractor for the US Army Corps of Engineers is called for in the National Historic Preservation Act of 1966 (PL-89-665) as amended. Accomplishment of this work provides documentation evidencing compliance with Executive Order 11593, "Protection and Enhancement of the Cultural Environment," dated 13 May 1971, and Section 106 of the National Historic Preservation Office.

The primary objectives of the investigation were: (1) the identification, through Phase I pedestrian survey and shovel/soil core subsurface survey, of all historic properties that are

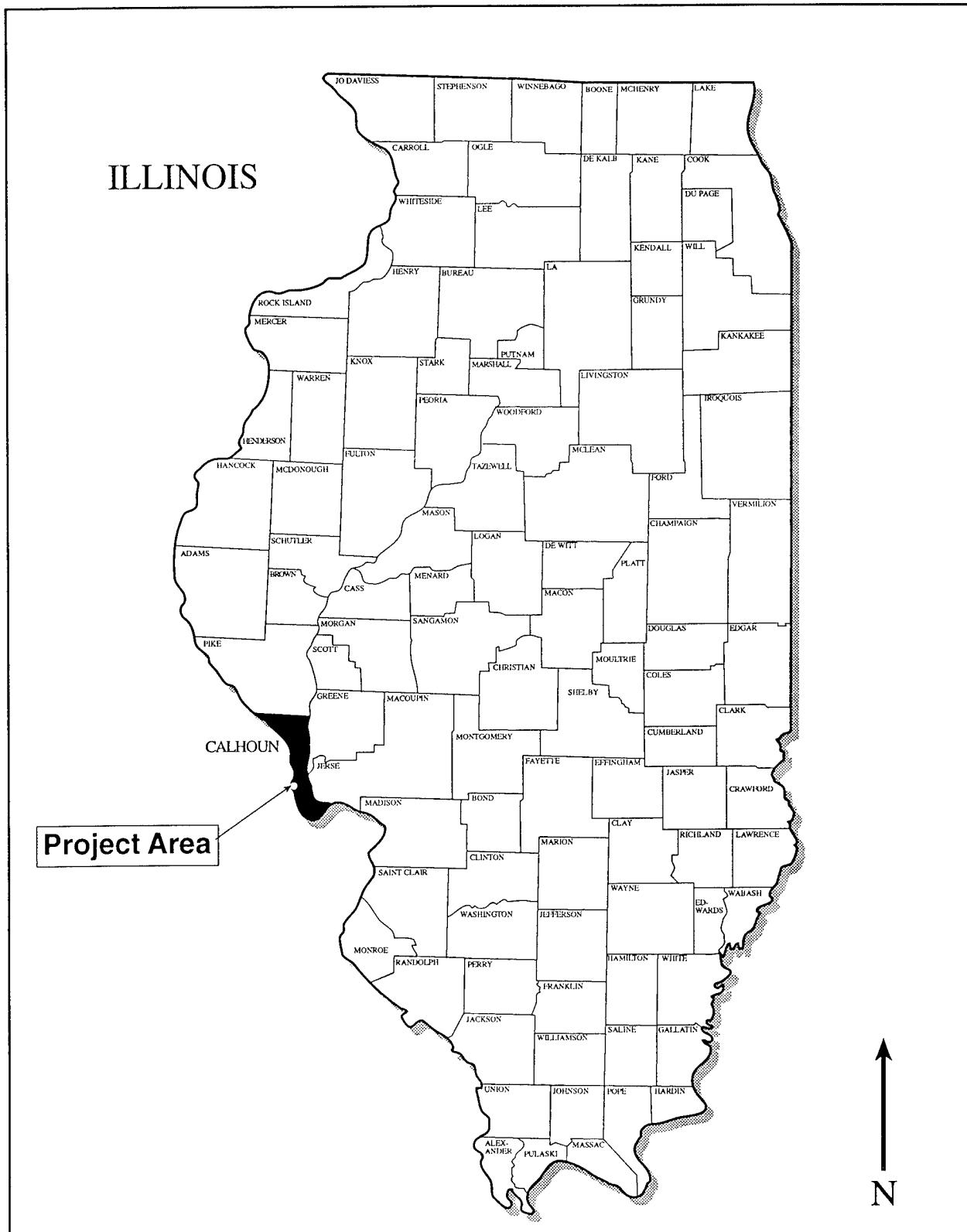


Figure 1. General location of the Batchtown HREP project area.

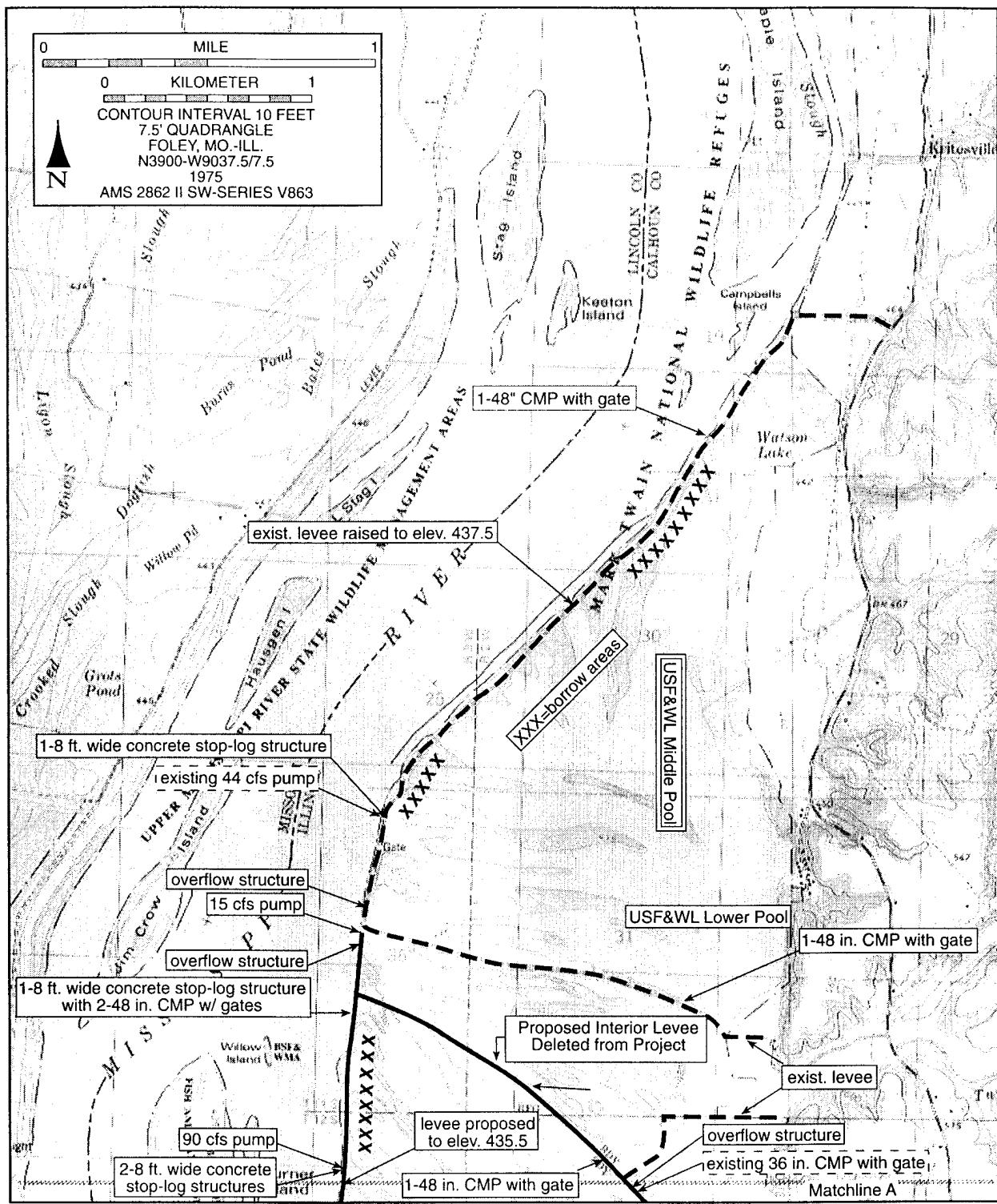


Figure 2. Topographic location of the Batchtown HREP project (northern portion).

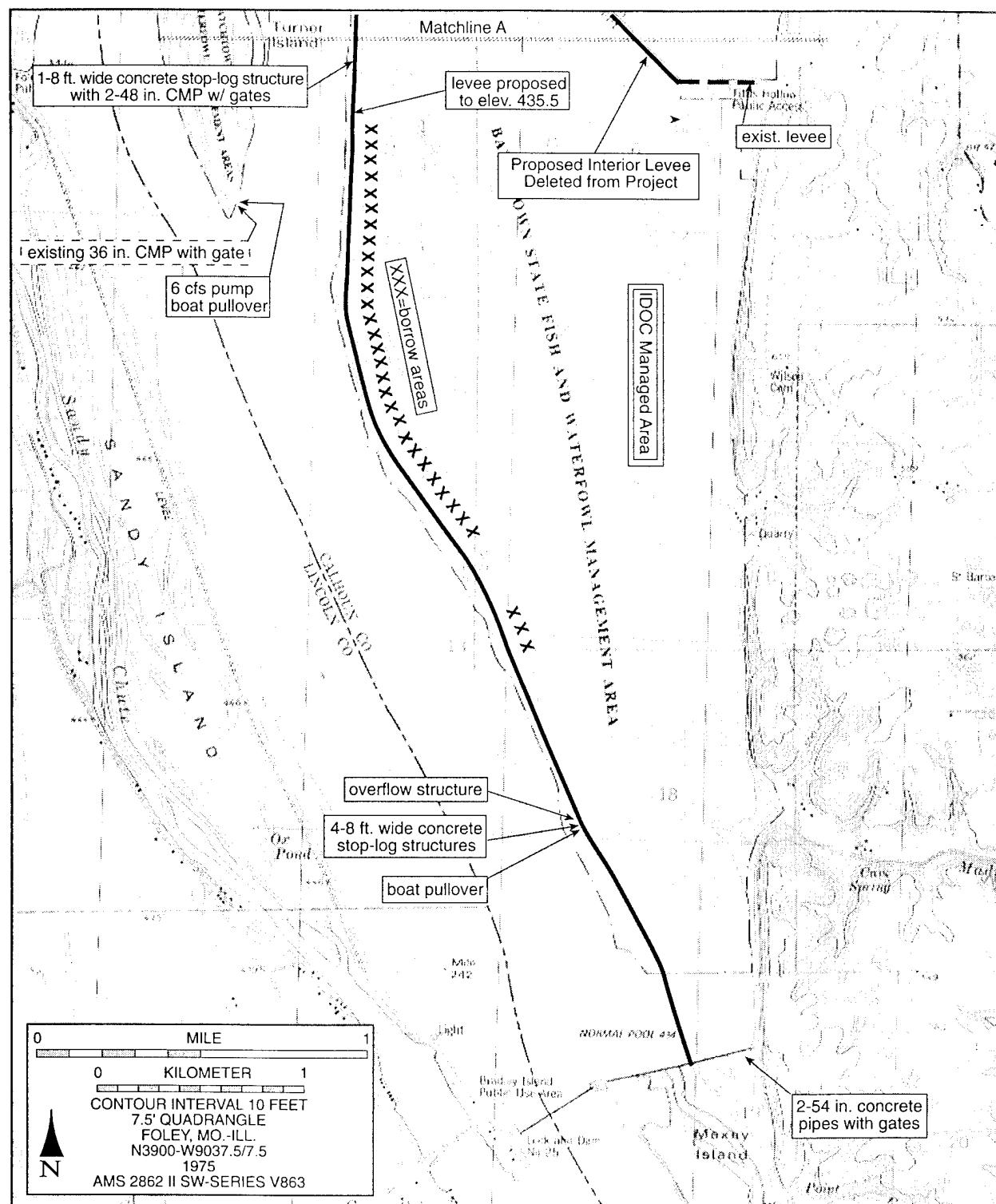


Figure 3. Topographic location of the Batchtown HREP project area (southern portion).

potentially eligible for the National Register of Historic Places (NRHP) that may be affected by construction; (2) geomorphological investigation to document areas within the project area with little or no potential to contain historic properties; (3) documentation through archival research, subsurface testing, and visual assessment of project impacts; (4) the preparation of a scientific report of the study that meets Illinois Historic Preservation Agency (IHPA) guidelines for such studies; and (5) recommendations regarding the necessity for Phase II investigations to determine NRHP eligibility (S.O.W, Appendix A).

All work conformed to professional standards and guidelines set forth in the Secretary of the Interior's Standards and Guidelines for Archaeology and Historic preservation (Federal Register, 1983). The methods employed in the study were implemented in accordance with the specifications presented in Sections 4 and 7 of the project scope of work (Appendix A).

The natural environment of the project area is briefly summarized in Chapter II. Previous archaeological research conducted in the project area and an overview of the culture history of Calhoun County are presented in Chapter III. The research design of the project, including the field and laboratory methods employed in the study, are presented in detail in Chapter IV. The results of the geomorphological investigation are presented in Chapter V. The results of the archaeological field investigation, including physical descriptions of each site, sketch maps, and artifact inventories, are presented in Chapter VI. Evaluations regarding the National Register eligibility of the sites located by the survey, and recommendations concerning the need for additional work are presented in Chapter VII. The project scope of work is presented in Appendix A.

Fieldwork was conducted June 8-12, 1994. Michael J. McNerney is principal investigator, Steve Titus directed the archaeological survey with the assistance of Wes Neal, and Jeffrey D. Anderson conducted the geomorphological investigation. Jim Balsitis prepared the report graphics. Gordon Howe wrote Chapters II and III of this report, Jeffrey D. Anderson wrote Chapter V, and the remaining chapters were written by Steve Titus.

CHAPTER II. ENVIRONMENTAL SETTING

Introduction

The project area is located within the Batchtown HREP and within the Middle Mississippi River valley of western Illinois. The project area is located in the Driftless Section of the Middle Mississippi Border Natural Division (Figure 4) (Schwegman 1973). The Batchtown HREP contains approximately 321.2 ha of land and approximately 1,007.2 ha of water. The HREP extends into the Mark Twain National Wildlife Refuge on the north and is bordered by the Mississippi River on the west and south, and dissected uplands on the east.

Regional Setting

The Batchtown HREP is located in the Mississippi River floodplain and along a narrow peninsula that separates the Illinois and Mississippi Rivers. The confluence of the Illinois River and the Mississippi River is approximately 34 km south. The project area is located along a narrow band of river bluffs and rugged terrain that border the Mississippi River. East of the project area and rising over 30 m above the floodplain is unglaciated uplands characterized by extensive stream erosion producing a very rugged terrain. Alluvial fans occur at the base of the bluffs and have been formed by the accretion of sediments carried down the steep and narrow stream valleys. The solution of carbonates that form the Mississippian bedrock in the area has created a karst topography of sinkholes and caves.

The Mississippi River floodplain on the Illinois side at this point in the valley is narrow being less than 2.4 km wide. Local relief throughout this portion of the floodplain is less than 6 m (Clifton 1989). The first record of the course of the Upper Mississippi was made during the Marquette and Joliet expedition of 1673 (Tucker 1942). These maps known as the "Joliet Map of 1674" and the "Marquette Map of 1673-1674" provide the first description of the "R. De La Conception," a name abandoned for the Native American name of Mississippi. These early maps were nothing more than field sketches "designed by the explorers to acquaint their superiors with the territory covered . . ." (Tucker 1942). It was not until 1816 that the first transit surveys were made of the river that provide us with the first accurate maps of the river's course. By 1818, township surveyors had virtually completed the survey of the river's bankline. Additional surveys in 1832, 1847, and 1856 completed the work (Simons et al. 1975).

The floodplain within the boundaries of the management area is characterized by a low ridge and swale topography and meander scroll bars. Sloughs developed in the swales and include:

The Natural Divisions of Illinois

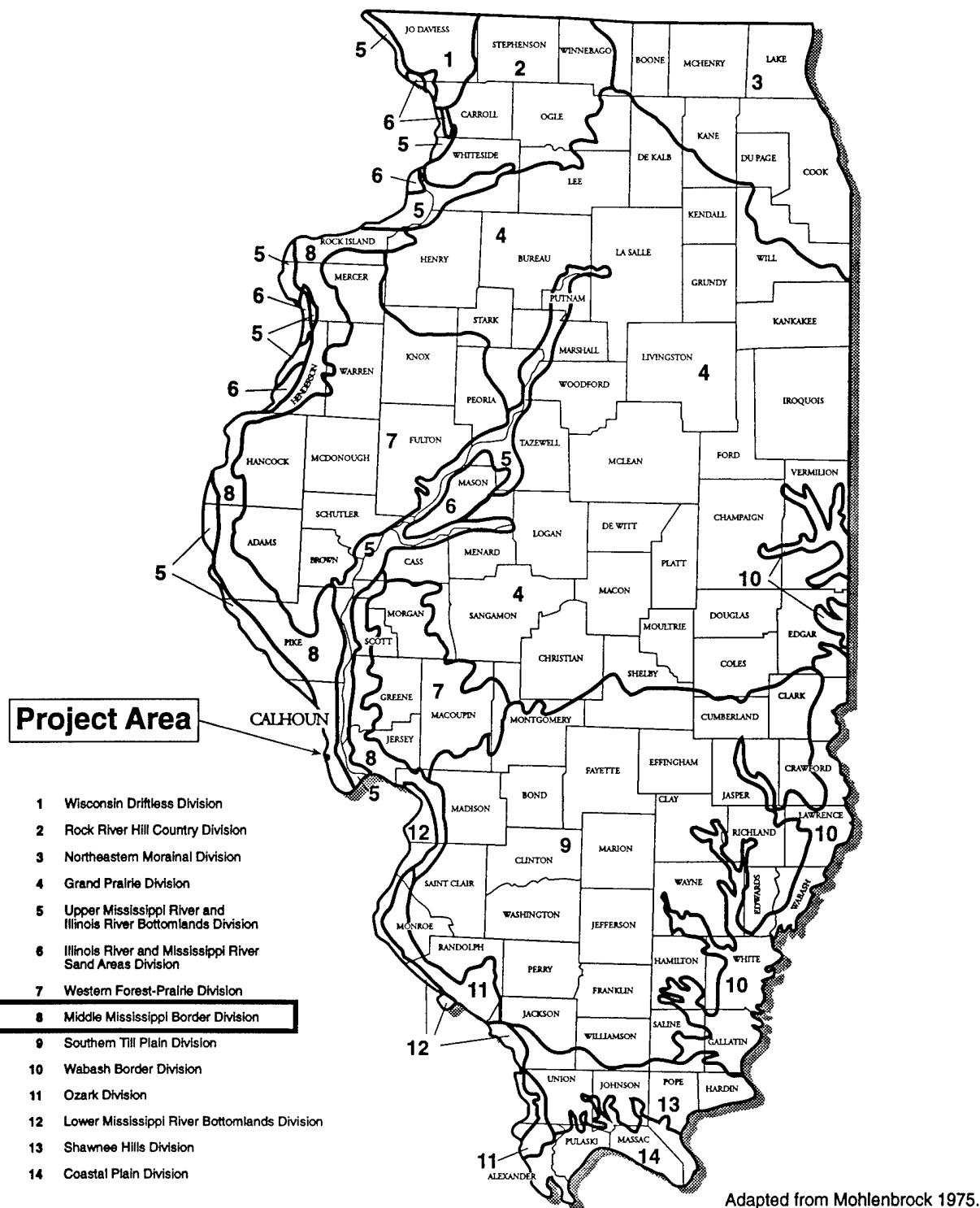


Figure 4. Location of the Batchtown HREP project area in relation to the Natural Divisions of Illinois.

Dixon Pond, Long Lake, George Bain Slough, Round Pond, Little Round Pond, Upper and Lower Flat Pond and Sand Bay. Recently, these sloughs have been flooded by backwater from the construction of Lock and Dam 25 at Cap Au Gris (Clifton 1989). Just to the north, the character of the floodplain changes and is dominated by older meander scroll bars modified by recent flood distributaries. An alluvial fan is present at the base of the uplands at the mouths of Turner Branch and Dixon Hollow. The deposition of Holocene sediments has buried pre-Holocene surfaces so that the exposure of pre-Holocene alluvial deposits is limited to exposures along the tributary valleys (Van Nest 1989).

Within the Bathtub HREP, the majority of the construction corridor lies on poorly drained, young late Holocene to historic floodplain surfaces. Post settlement alluvium (PSA) caps much of the older early to mid Holocene surface with indications that buried older Holocene soils occur in the project area.

Above Clarksville Island, the Mississippi River trends along the west side of the valley. Below this point, the river shifts eastward toward the Illinois bank, its course influenced by numerous tributaries entering from the Missouri side. Below Kelley Island, the Mississippi has moved westward and takes a more sinuous path until it again intersects the eastern bluff line at Lock and Dam 25. From the Lock and Dam, the river hugs the left bank at the base of the bluffs to Alton. The river has taken this trend since at least the early nineteenth century. A comparison between an 1891 map of the Mississippi River shoreline in the project area and recent aerial photos, have shown that the river-shoreline along this section has remained stable over the past one hundred years. The Government Land Office records (GLO) of the original land survey of Illinois made around 1820, also show a comparable configuration for the river-shoreline but suggest that the left bank of the river has moved slightly eastward since the early nineteenth century (Scope of Work 3.0:5).

Geology

The bedrock deposits in the Bathtub HREP area are dominated by carbonates of Mississippian, Silurian, and Ordovician age (Schwegman 1973). Mississippian limestones of the Kinderhookian and Lower Valmeyeran series occur higher in the section and are found underlying the uplands east of the project area. An extensive band of carbonates crops out along the Mississippi River on the west border of Illinois from near Cairo, north to northern Henderson County (Bretz 1961). A karst landscape has developed along this band and includes sinkholes and caves. Several caves have been found in Calhoun County including Panther Creek, Crater Creek, De Gerlia, Cave Spring and Hardin (Bretz 1961). Where glacial melt waters scoured through the upper strata, Silurian and Ordovician carbonates have been exposed and crop out forming bluffs along the major stream valley walls and floors (Schwegman 1973).

Soils

The soils within the Batchtown HREP belong to the Lawson-Sawmill-Darwin association (Fehrenbacher et al. 1984). These soils are found in all of the major floodplains of the state and comprise 6.5% of the state's land area. Formed in stratified clayey to sandy alluvium under prairie grasses or deciduous forests, they are generally dark or moderately dark-colored. The soils of this association occur on nearly level surfaces, but some specific soils in the association occur on sloping edges of older meander banks or breaks from one floodplain level to another (Fehrenbacher et al. 1984). The soils are derived from the stratified alluvial sediments in the floodplain and are classified as Cahokia Alluvium (Lineback 1979). These sediments occur in the floodplains and channels of modern rivers and streams. The sediments are composed of poorly sorted sand, silt, and clay and may contain local deposits of sandy gravel (Lineback 1979).

To the east, soils of the Fayette-Rozetta-Stronghurst association developed on the heavily dissected uplands. These light colored soils are classified as intermediate in development and comprise 6.3% of the states land (Fehrenbacher et al. 1984). These upland soils developed in deep Peoria and Roxana loess that have a combined thickness of 200-300 inches in the uplands adjacent to the Batchtown HREP (Fehrenbacher 1986).

Flora

Native vegetation in the Batchtown HREP was dominated by dense stands of timber with hilltop prairies occurring on west-facing bluffs. Plant communities in the region would have included dry upland, mesic upland, and floodplain (King 1984). Prairies would have occupied some hill crests but were restricted in Calhoun County (Anderson 1970, Iverson et al, 1989). Aquatic communities would have been found in the creeks, rivers, sinkholes and ponds. According to the GLO records, Calhoun County contained 141,100 acres (85.6%) of forest, 18,900 acres (11.5%) prairie, and 4,800 acres (2.9%) water (Iverson et al. 1989:7).

Tree species that could be found in the wetter floodplain would have consisted of silver maple (*Acer saccharinum*), sycamore (*Platanus occidentalis*) and cottonwood (*Populus deltoides*) (Schwegman 1973). Other species that would have been present would have included white oak (*Quercus alba*), hickories including pecan (*Carya illinoensis*), and black walnut (*Juglans nigra*). The wetlands of the floodplain would have supported sedges, grasses and wild rice (Clifton 1989). The upland forest community would have included white oak (*Quercus alba*), red oak (*Quercus rubra*), kingnut hickory (*Carya laciniosa*), pignut hickory (*Carya ovalis*), blackjack oak (*Quercus marilandica*), and black oak (*Quercus velutina*) along with a variety of shrubs and forbs (Voigt and Mohlenbrock 1964). Plant species common to the prairie community would have included big bluestem (*Andropogon gerardii*), little bluestem (*Schizachyrium scoparium*), Indian grass (*Sorghastrum nutans*), wild rye (*Elymus canadensis*), switch grass (*Panicum virgatum*), and slough grass (*Spatine pectinata*) along with vines, berries and a wide diversity of prairie forbs (Voigt and Mohlenbrock 1964).

Fauna

The bottomlands of the Mississippi floodplain would have provided a rich environment containing a variety of animal resources. Many of the bottomland resources would have included species also available in the uplands including the opossum (*Didelphia virginia*), fox squirrel (*Sciurus niger*), gray fox (*Urocyon cineoargentus*), eastern gray squirrel (*Sciurus carolinensis*), southern flying squirrel (*Glaucomys volans*), striped skunk (*Mephitis mephitis*), groundhog (*Marmota monax*), and white-tailed deer (*Odocoileus virginianus*) (Shelford 1963). Native animal species that are now extinct in the region, but would have been potentially available food resources, include elk (*Cervus canadensis*), black bear (*Ursus americanus*), and passenger pigeon (*Ectopistes migratorius*). The bottomlands would also have supported the black racer snakes, the eastern box turtle (*Terrapene carolina*), and the midland painted turtle (*Chrysemys picta marginata*). The rivers, streams, and ponds would have provided various fish species including bowfin (*Amia calva*), channel catfish (*Ictalurus punctatus*), buffalo (*Ictiobus* sp.), flathead catfish (*Pylodictus olivaris*), and redhorse (*Moxostoma carinatum*). Freshwater mussels would also have been important and would include the warty-back (*Quadrula nodulata*), mucket (*Actinonaias carinata*), and the monkey-face (*Quadrula metanevra*). The Batchtown HREP is located in the Mississippi flyway so that a variety of seasonally available avian species would have been abundant including many species of geese, ducks, herons, and other waterfowl. The woodlands and forest/prairie fringes would have supported turkey (*Meleagris gallopavo*) and bobwhite (*Colinus virginianus*).

Local Environmental Setting

The Batchtown HREP contains a variety of habitats, all oriented toward a bottomland environment. Current vegetation patterns of the land above the normal pool level include approximately 50% wooded and 50% overgrown weed/grassland and includes some cultivated ground in the northern portion of the Batchtown HREP. The construction of Lock and Dam No. 25, in 1939, south of the Batchtown HREP has resulted in the impoundment of water behind the dam that has flooded the lower lying areas within the Batchtown HREP boundaries since 1939. As a result of the dam, eight backwater sloughs have been created leaving the crests of the bottomland ridges and natural levees the only exposed ground within the project area.

CHAPTER III. ARCHAEOLOGICAL AND HISTORICAL BACKGROUND

Prehistoric Overview

Archaeologists have developed a broad cultural/historical classificatory scheme with which to organize and describe the prehistory of the Midwestern and Eastern United States. The cultural periods are: Paleoindian (15,000-8,000 B.C.); Early Archaic (8,000-6,000 B.C.); Middle Archaic (6,000-3,000 B.C.); Late Archaic (3,000-1,000 B.C.); Early Woodland (1,000 B.C.-400 B.C.); Middle Woodland (400 B.C.-A.D. 400); Late Woodland (A.D. 400-A.D.1000); and the Mississippian period (A.D. 1000-A.D. 1600). These periods are established based on cultural traits identified through archaeological research and are not to be confused with the historical tribal groups encountered by the first Europeans to arrive in the New World.

This long prehistoric period can be characterized by an increase in cultural complexity, beginning with small hunting and gathering societies that evolved into more complex societies. Subsistence activities began with the collecting of wild plant and animal foods and culminated with the domestication of the three major New World crops - corn, bean and squash - during the final Mississippian period. Increases in human population and trends toward urbanization were evident and reached their highest levels during the Mississippian period.

The Paleoindian period is best known from the western United States where many archaeological sites have produced cultural material in association with a late Pleistocene megafauna. These are the well-known Clovis and Folsom cultures associated with extinct mammoth and bison, respectively. Evidence from Kimmwick, Missouri (Graham et al. 1981) presents a picture of a varied subsistence base for the Clovis culture utilizing mammals ranging from squirrels to mastodons. Major Paleoindian sites are also known from the eastern United States. However, in the Middle Mississippi River valley in Illinois, Paleoindian occupations are represented by surface finds of artifacts diagnostic of the period. Cultural material from the Paleoindian period has not been identified in the Bathtub Management Area. However, it is possible that buried Paleoindian components exist in alluvial fans near the base of the Mississippi River bluffs.

The Early Archaic period in the Middle Mississippi River valley is represented by surface finds of diagnostic tools representative of this cultural period as well as buried deposits. Dalton, Thebes, Dove-Tail, Hardin Barbed, and Agate basin projectile points are commonly associated with the Early Archaic period. In western Illinois, Early Archaic sites are commonly found in an upland setting along secondary valleys tributary to major river valleys. Luchterhand (1970:42) has

suggested that this may indicate the intensive exploitation of deer during the winter months when they aggregate in sheltered secondary valleys. Recent work has provided evidence that Early Archaic occupations may lie buried deeply beneath the ground in some areas of the floodplain while they are exposed on the surface in others, making interpretations of the Early Archaic settlement patterns from the surface distribution of artifacts a dubious endeavor (Wiant et al. 1983:147). The Koster site in Greene County, Illinois for instance, contains a series of stratified deposits with associated living floors, features, artifacts, and botanical and faunal remains that extend back into the Early Archaic period (Cook 1976: Hoart 1971: Phillips and Brown 1983). The Early Archaic period is not well known in the Mississippi River floodplain around the Batchtown area although it is possible that small, nondiagnostic lithic scatters located during the present investigation could represent an Early Archaic use of the floodplain. Evidence has been found in the Illinois River floodplain of the intensive use of the floodplain environment by Early Archaic population (Conner 1984: Stafford et al. 1983). These sites consist primarily of small encampments that appear to have been designed to exploit floodplain resources (Stafford 1989:119). Thus, a general subsistence-settlement pattern emerges where Early Archaic groups scheduled their movements to exploit seasonally available resources through high residential mobility (Brown and Vierra 1983:190).

By 6,000 B.C., the climate of the Midwest had moderated from that of the Wisconsinan glaciation and the environment was essentially modern. Pollen analysis from the Midwest has indicated that by 8,700 B.P. the climate in Illinois was warm and dry. This period is known as the Hypsithermal, and it is believed that this shift in the climate in the midcontinent region was responsible for the spread of the prairies and herbaceous species (King 1980). The establishment of new plant communities opened new environments for exploitation by Middle Archaic groups. The Middle Archaic, then, can be described as continuing the trend toward broad spectrum resource utilization and toward a more effective adaptation to the environment (Caldwell 1958; Fowler 1959). In Illinois this trend is shown by the diversification of tool kits and the appearance of more ground stone artifacts, including full-grooved axes (Griffin 1968). Other new artifacts include stone pendants, bannerstones, and various bone tools, such as awls, antler projectile points, atlatls, bone fish hooks, tortoise shell cups, and necklaces of mammal teeth (Griffin 1968:133). Projectile points associated with the Middle Archaic include the Osceola, Big Sandy, Raditz, Jakie Stemmed and basal-notched styles.

The majority of the information on the Middle Archaic for western Illinois comes from work conducted in the Lower Illinois River valley east of the Batchtown area. During this period, the intensive harvesting of hickory nuts occurs for the first time. Evidence of more intensive plant use is indicated by the recovery of small numbers of squash rinds, sumpweed seeds, and other plant remains at the Koster site. In contrast to the residential mobility of the Early Archaic period, Middle Archaic settlement patterns in western Illinois are marked by a trend toward increasing sedentism. Occupation lengthened at certain village and camp sites that were strategically located to exploit the increasing available floodplain resources. A key to this development was the increased use of food-rich slack water environments in the river valleys that resulted in a

concentration on this resource zone to the exclusion of other alternatives (Brown and Vierra 1983:189-190).

The Late Archaic period (3,000-1,000 B.C.) witnessed the continuation and elaboration of the settlement and subsistence trends of the Middle Archaic period. Considerable growth in population, distinct regional adaptations, and interregional exchange systems are hallmarks of this period. Archaeological data point to a marked increase in the exploitation of plant resources. Data from the Lower Illinois River valley and other sites in the Midwest suggest that during the Late Archaic, plant domestication took place and included sumpweed (*Iva annua*), sunflower (*Helianthus annus*), and possibly goosefoot (*Chenopodium* sp.) (Smith 1987). Two Late Archaic phases, the Helton and Titterington phases have been defined in western Illinois (Cook 1976). Helton Phase sites are typically located in the floodplain along the valley walls, but Helton phase artifacts found in the uplands suggest an intensive exploitation of the uplands as well (Cook 1976) Diagnostic Helton phase artifacts include the Godar, Karnak Stemmed, and Matanzas projectiles. The following Titterington phase has been defined based on both village and mortuary sites. Diagnostic tools associated with the phase include the Wadlow and Etly projectiles.

Broad similarities exist among the Terminal Late Archaic and Early Woodland (1,200-600 B.C.) manifestations in west-central Illinois, the Illinois River Valley and the American Bottom to the south. The settlement/subsistence strategies that were established during earlier periods continued into the Early Woodland. Two developments that distinguish the Early Woodland from earlier periods are the development of a ceramic technology and an increase in ceremonialism and the elaboration of mortuary practices involving the construction of burial mounds. In west-central Illinois, the Kampsville phase Prairie Lake culture has been defined centered along the Lower Illinois River valley. These sites occur in bluff-base settings with bluff top burial mounds also occurring. Site distribution patterns suggest that Early Woodland populations were exploiting a wide range of resources with the possible seasonal movement of camps between uplands and river bottomlands (Bareis and Porter 1984:62). Faunal remains indicate the exploitation of a variety of aquatic and terrestrial species while floral remains indicate a plant harvest with nut collecting as an important constituent.

Early Woodland temporal and spatial divisions recognized in west-central Illinois include the Marion phase of the Marion culture, the Cypress phase of the Black Sand culture, and the Mound House phase of the Initial Havana culture (Farnsworth and Asch 1986:331). Previous studies along the Mississippi River have located Early Woodland sites in the floodplain (Anderson et al. 1989:19). These sites may be located on alluvial plains and on well drained sand ridges (Anderson et al. 1989:18). Subsistence data indicate the use of upland and bottomland plant species and domesticated squash (*Pepo*), little barley (*Hordeum pusillum*), and goosefoot.

The first ceramics appear in the region occur in the Marion phase. Marion Thick pottery is characteristically thick-walled and coarse-tempered. The vessels were typically cord-marked or fabric-marked on both the exterior and interior surfaces. Decoration includes incising and punctuates.

The Middle Woodland is the time when the Hopewellian Interaction Sphere (Struever 1964) connected distant Middle Woodland groups through a highly developed socioreligious organization. Large regional centers that exhibit groups of conical shaped burial mounds were the focal points for Hopewellian activities during this period as exemplified by the Snyders Mound located east of the project area along the bluff line bordering the Mississippi River. The material culture of the Middle Woodland exemplifies the elaborateness and the ceremonialism of the time. Finely made flaked blades and Snyders and Affinis Snyders projectiles were made. Pottery vessels are much thinner-walled than earlier ceramics and display a variety of decorative motifs including cord-marked and plain vessels with incising, punctations, fingernail impressed and zoned vessels. Middle Woodland settlements occur in a variety of physical settings including the natural levees, undissected uplands, alluvial and colluvial fans, adjacent to backwater lakes, in tributary valleys, along the bluff base, and in the floodplain. Middle Woodland floodplain settlements include extractive camps located next to back water lakes and possible mortuary-related sites (Farnsworth 1976; McGimsey and Wiant 1986; Stafford and Sant 1985). Subsistence data indicate the intensive use of backwater fauna, collection of hickory and hazel nuts, and cultivation of starchy seed annuals including maygrass (*Phalaris caroliniana*) little barley and goosefoot (Stafford and Sant 1985:453).

The end of the Middle Woodland (Hopewell) period at approximately A.D. 400 was marked by a reduction in interregional trade, a decrease in the complexity of ceremonial/mortuary practices, and a reduction in the elaborateness of ceramic decoration. As noted by Nassaney and Cobb (1991:2), the Late Woodland period remains "little studied and enigmatic" despite the large amount of archaeological research conducted over the past 20 years. The period has traditionally been viewed as one of social decline, the result being that "the archaeological remnants of (Late Woodland) culture are frequently studied for what they can tell us about the Hopewellian dissolution or the emergence of the Mississippian culture" (Nassaney and Cobb 1991:1). The finely-made blades of the Middle Woodland were replaced by flared base forms such as the Lowe Flared Base. In contrast to this view, Nassaney and Cobb (1991:1,6) have characterized the Late Woodland period as a "time of markedly uneven sociocultural development . . . [in which there was] considerable variation in social relations, accompanied by similar diversity in ideology, subsistence, technology, and other realms . . . [this] diversity . . . argues strongly for processes of social stability and transformation in the Southeast that are linked to ecological, political, and economic variation at both local and regional levels." In the same vein, Green (1987:2) argued that Late Woodland research has the potential to provide information on cultural change and continuity in the form of the adjustments that human societies made during this time to a complex and changing social and biophysical environment.

The White Hall phase (A.D.450-650) is the earliest Late Woodland phase in the region of the Lower Illinois River valley (Styles 1981). Continuity with the preceding Middle Woodland period is reflected in a subsistence base that involved the use of terrestrial and riverine species, nuts, and cultivated plants. Settlements tended to be small and located in a variety of ecological zones (Conner 1985:2).

Mississippian culture (A.D. 1000-1600) represented the culmination of social, economic, political and technological trends begun in the Late Woodland period. This period was characterized by an increased dependency upon agriculture as a subsistence base and increased social stratification and complexity. Settlement patterns were characterized by large regional population centers surrounded by a radiating network of agricultural and special purpose sites. Large ceremonial centers, such as the Cahokia site in the American Bottom, contained flat-topped temple mounds, plazas and fortifications. These sites are thought to have functioned as central places with respect to economic and ceremonial activities.

Diagnostic Mississippian artifacts include shell-tempered pottery, finely-made Madison and Cahokia arrow points, and farming implements, including bifacial chipped stone hoes commonly made of chert from the Mill Creek quarries in southern Union County (Cobb 1992). Use of the hoes commonly resulted in the polishing of the hoe surface. Sharpening the hoes by knocking off small flakes produced small chert flakes (hoe flakes) with polished surfaces that are common at Mississippian habitation sites. The presence of hoe flakes is often interpreted as evidence of agricultural activity. Small artifact scatters containing shell-tempered pottery and hoe chips are frequently characterized as "farmsteads" or more appropriately "homesteads" (Milner et al. 1984; Muller 1978; Wagner 1986). The carbonized remains of cultivated plants, including corn, squash, sunflowers, various starchy and oily seeds, and more rarely, beans, have been found at Mississippian habitation sites (Milner et al. 1984).

Investigations of the Mississippian period in the central Mississippi River valley north of the American Bottom have been primarily restricted to the excavation of mortuary features such as those of the Schild cemetery (Goldstein 1980; Perino 1971). Mississippian use of the region appears to have been much less intense than that of the American Bottom to the south, or the central Illinois River valley. Noticeably absent are the large towns containing platform mounds. Instead, the Mississippian population appears to have been organized around a series of dispersed settlements analogous to the "fourth line" communities found in the American Bottom (Conner 1986:218-219).

Historic Background

In the summer of 1673, when the first French explorers ventured down the Illinois and Mississippi association, the territory around Calhoun County was in the control of the Illinois Confederacy. The Illinois Confederacy was composed of five tribes, the Peorias, Cahokias, Tarmaroas, Kaskaskias, and Mitchagamies. Initially the territory controlled by the Illinois Confederation was immense, encompassing most of the territory within the State of Illinois. By the time the French arrived in the region, the power of the Confederation and the territory it controlled had been severely reduced. The Illinois were attacked from the west by the Sioux, the Sac, Fox and Kickapoos from the north, and the Iroquois from the east (Carpenter 1967:5). Of all of the tribes attacking up and down the frontier, the Iroquois afflicted the most severe punishment on the Illinois. In the seventeenth century, the Iroquois were pushing west and entered the Illinois territory attacking Illinois villages up and down the river. LaSalle described a

massacre that occurred in November 1680, in what is now known as southern Calhoun County. At the site of Deer Plain Ferry, near the place known as Marshall's Landing, a group of Tamaroa were attacked by a war party of Iroquois and 1,200 Tamaroa were killed in the battle (Temple 1966:24; Carpenter 1967:6). A description of the battle grounds based on LaSalle's diary described a scene where the ". . . long grass had been trampled down and all around were strewn the relics of the hideous orgies which formed the ordinary sequel of an Iroquois victory" (Carpenter 1967:6). According to local farmers, skeletons and weapons have been plowed out in the fields at this location. However, it is not known whether these remains and artifacts relate to those participating in the battle or represent a burial ground unassociated with the battle.

By the later part of the eighteenth century, the Illinois Confederacy had been weakened and eventually dissolved leaving the vast territory of the Illinois country unclaimed by any native group. According to Carpenter (1967:6) a census conducted by the French in 1736 found only 600 Illinois warriors left in the territory and by 1800 the number had been reduced to 30 warriors (Carpenter 1967:6).

The Illinois territory remained unclaimed after the fall of the Illinois Confederacy and was used by various Native American groups until the influx of American settlers in the early nineteenth century (Johnson 1973). Dominate among the tribes in the Illinois territory were the Sauk and Fox. During the War of 1812, conflict and tension peaked between native groups, the British and American settlers. Fearing that the Sauk and Fox would align with the British, a band was "escorted" across the Mississippi River by the U.S. Army and crossed 1.6 miles south of the Batchtown Management Area (Clifton 1989; Temple 1966:106). A fort had been constructed in Missouri, across the Mississippi River from West Point Ferry in the Richwoods Precinct. In the summer of 1813, between 60 and 80 Indians from the northern part of Indiana clashed with 13 soldiers who had crossed the river from the fort. The number of Indians killed or wounded is not known, but the only soldier to survive the battle was John Shaw (Carpenter 1967:8). The following summer, another battle took place in the same area between Indians from the north, and soldiers and settlers from the fort. The war party did not attack the local settlers in Calhoun County, as their quarrel was strictly with the settlers and soldiers from the fort. Black Hawk, who later became a prominent figure in the Black Hawk War, is said to have been with the war party.

French trappers were the first Europeans to settle in the Calhoun County area. The first settlement was just above Deer Plain Ferry on the Illinois River. Flooding in 1815 prompted the abandonment of this post and a second settlement was established at Cap Au Gris in the early nineteenth century. Cap Au Gris which means Cape of Grit or Grindstone, was located at the site of West Point Ferry in the Richwoods precinct (Carpenter 1967:11) that would have placed it approximately .25 km south of West Point and approximately 1 km south of the HREP. According to Carpenter (1967:11), there were 20 families farming approximately 500 acres of common fields at the village in 1811. However, by 1815, the settlement was abandoned.

American settlement in Calhoun County dates from 1811 with the arrival of Major Roberts. Judge Ebenezer Smith arrived in Calhoun County on May 10, 1819 and reported that

there were five settlements in the county at the time (Carpenter 1967:12). Smith settled south of Hardin on the Illinois River. These settlements were on high ground adjacent to the Mississippi River and Illinois River floodplains and outside of the HREP which was low, contained many backwater ponds, and was prone to flooding. In 1819 there was a trading post in Smith's neighborhood, operated by a French-Canadian. In furthering the settlement of the neighborhood, Smith is said to have destroyed the trading post in order to free the community from the dangers from local Indians who would obtain liquor at the post (Carpenter 1967:13). An influx of American settlers began to arrive in Calhoun County in the 1820s and populations continued to increase through the 1830s (Clifton 1989:73). The majority of the early settlers of the county were of English descent, but Germans, Irish, French and Afro-American families also settled in Calhoun County. The first census was taken in 1830 and the county population was placed at 1,092, all of which were white. By 1840, the number of Afro-Americans had increased to 15, 13 males and 2 females (Carpenter 1967:32). The largest increase in the population of the county took place between 1840 and 1860, as a result of an influx of German and Irish immigrants fleeing persecution and hardships in their motherland.

On January 10, 1825, Calhoun County was incorporated out of Pike County and named in honor of John C. Calhoun, a prominent statesman of the time. Prior to this, the county seat had been at Atlas but with the establishment of Calhoun County, the county seat was moved to Coles Grove and the name of the community changed to Gilead. The county seat remained at Gilead until 1847 when it was moved to Child's Landing for easier access by the citizens of the county (Carpenter 1967:22, 26). The name of the community was changed to Hardin in honor of Colonel John C. Hardin, who was killed in the Mexican War leading the first Illinois volunteers (Carpenter 1967:26).

The town of Batchtown is located just east of the Batchtown HREP. This village has been known by a variety of names. In the 1850s the village was known as Richwoods or Sam Whites, after a merchant in the community. In the 1860s the name Batchelder ville was known after William Batchelder who had been justice of the peace, merchant, and mill owner. In 1879 a post office was established and the official name Batchtown was chosen for the village (Carpenter 1967:20). One prominent citizen of Batchtown, and an early founder, was Samuel White. In 1868, White moved to Batchtown from Gilead and built a two-story store from which he provided groceries, dry goods, shoes, and hardware as well as farm machinery. This store was the largest and best known in the county from 1870 to 1890 (Carpenter 1967:22). White also constructed a flour mill in Batchtown that attracted farmers throughout the southern and central part of the county.

The timber industry was a major factor in the early economic growth of Calhoun County. Based on Government Land Office records, it is estimated that around 1820, approximately 85.6% of Calhoun County was forested (Iverson et al. 1989:8). When steamboats began to travel the Mississippi and Illinois rivers, landings sprang up along the river banks where settlers sold firewood to passing steamboats. From these landings, lumber, wheat, and apples were shipped to markets in Alton and St. Louis (Underwood 1975:11). Four landings operated along the east

shore of the Mississippi River within the boundaries of the NREP that would have connected residents of the Batchtown area with distant markets. These late nineteenth to early twentieth century landings include Churches Landing, Bellamy Landing, Turner Landing, and Wilson Landing. These landings were important for local commerce as the Mississippi and Illinois association were the economic lifelines for the county. Unlike many other communities, the spread of the railroads had little impact on river trade in Calhoun County. So important were these rivers that Calhoun was the only county in the state left without a rail line (Carpenter 1967:68). By the end of the Civil War, timber production began to decline, but the soils in the uplands of the county and the climate were found ideal for growing apples. The apple industry became the primary employer in Calhoun County so that by 1930, 75% of the employed workers in the county owed jobs to the orchards (Bortz n.d. cited in Clifton 1989:74).

A review of the original land purchase records for the acreage contained within the Batchtown HREP indicates that the land became available for purchase in 1817 (Table 1). The land between the Mississippi River and the Illinois River, some three and a half million acres, was referred to as the "Military Lands" of the "Military Tract." The United States Government had set aside these lands to give to veterans of the War of 1812. Those who had enlisted prior to December 10, 1814 were deeded 160 acres, while those enlisting after that date were deeded 320 acres (Carpenter 1967:13). The survey of the lands was completed in 1816 and 1817, but it was not until after 1823 that much of the land was actually settled. Much of the Military Tract became the ownership of land speculators in the east who purchased the land from the soldiers. Thus, while many tracts of land were purchased at this date, very little settlement took place in the region. In 1833, for example 139 tracts of land in Calhoun County were sold for taxes, while only 34 of these were owned by the original assignee (Carpenter 1967:13).

The earliest land purchases within the Batchtown HREP are dated 1817. In October and November of that year, eight parcels totaling 1,440 acres were purchased. Included in these was a purchase deeded October 20, 1817, to William Hopkins who purchased 160 acres in the SW1/4 of Section 6. On November 29 of that same year, two deeds were entered into the land records, each for a 160-acre tract. John Daniels purchased 160 acres in the NW1/4 of Section 7 while Abner Loomas acquired the NE1/4. These men were veterans, as were the other purchasers of the time; it is unknown whether they actually occupied the land. Five parcels totaling 800 acres were purchased in 1818. There are no other recorded purchases within the BMA until October 8, 1830 when James Mason purchased 9.72 acres near Wilson Landing. There is speculation that Mason purchased the land with the intent of selling the timber to passing steamboats.

The majority of the land in the management area was purchased in 1817, 1440 acres (32.7%) with the next series of purchases taking place in 1818, 800 acres (18.2%). Approximately 540 additional acres (13.4%) of the land was purchased between 1830 and 1839, 487 acres (11.1%) purchased between 1840 and 1849, and 1085 acres (24.6%) purchased during a four year period between 1850 and 1854 (Table 1).

Table 1. Original Land Purchase Data For Parcels Within The Batchtown Management Area by Year of Purchase.

Purchaser	Description	Section	Township	Range	Acres Purchased	Date Purchased
John Daniels	NW	7	12S	2W	160	Nov.29 1817
Samuel Lawson	S2	32	11S	2W	320	Oct. 1817
Abner Loomas	NE	7	12S	2W	160	Nov.29 1817
Wm. Hopkins	SW	6	12S	2W	160	Oct.20 1817
John Muse	NW	29	11S	2W	160	Oct. 1817
James Severance	SW	31	11S	2W	160	Oct. 1817
Augustine St. Amore	SE	31	11S	2W	160	Oct. 1817
Hugh Stephenson	NE	30	11S	2W	160	Nov. 1817
David Green	SW	29	11S	2W	160	Jan. 1818
J.E. Lewis	SE	30	11S	2W	160	Feb. 1818
Robert Pratt	NW	32	11S	2W	160	July 1818
John M. Williams	SW	30	11S	2W	160	Feb. 1818
George Wright	SE	7	12S	2W	160	Sept. 1818
James Mason	FR Sec	13	12S	3W	9.72	Oct.8 1830
Aaron Haines	Island 55?	1	12S	3W	56.5	Mar.7 1836
Levi Turner	SW NE	1	12S	3W	40	Mar.6 1836
Thomas Church	NW FR	30	11S	2W	20 +	Mar. 1837
Thomas Church	SE FR Sec	19	11S	2W	50 +	Mar. 1837
Stephen Russell	NW SE	1	12S	3W	39.43	Nov.30 1837
Levi Turner	E2 SE	1	12S	3W	78.9	Feb.10 1837
Peirce Coleman	SW SE	1	12S	3W	39.44	Jan.15 1838
Aaron Hames	FR Sec.*	12	12S	3W	176.4	Jan.25 1838
Levi Turner	E Sub NE F	36	11S	3W	80 +	July 1839
Levi Chism	NE SE	36	11S	3W	40	June 1840
Thomas Church	FR Sec	25	11S	3W	20 +	Feb. 1840
Absolom Keithly	NE NE	1	12S	3W	40	May 26 1849
Absolom Keithly	SE SE	36	11S	3W	40	May 1849
Hiram Keithly	NW	6	12S	2W	187	Aug.17 1849
Benjamin Knowlton	W2 lot 1 NE	6	12S	2W	40	Nov.26 1849
Levi H. Turner	W2 NW	31	11S	2W	80	May 1849
Calvin Twitchell	SE NE	18	12S	2W	40	Oct.24 1849
Charles A. Boullenois	SE NE	1	12S	3W	40	Mar.18 1850
William Church	NE	31	11S	2W	160	Aug. 1850
Aaron Hames	NW NE	1	12S	3W	40	Mar.18 1850
Aaron Hames	NW FR	1	12S	3W	2.52	Apr.11 1850
John McDonald	SW FR	1	12S	3W	6.57	Oct.27 1850
Levi H. Turner	E2 NW	31	11S	2W	80	Sept. 1850
Stephen Hevington	E2 lot1 NE	6	12S	2W	40	Dec.12 1852
Hiram Dixon	SE NE	6	12S	2W	40	Dec.5 1853
Wm. D. Larkey	N2 NE	18	12S	2W	80	Dec.17 1853
Henry Allbright	SE+	18	12S	2W	175	Aug.7 1854
Wm. D. Larkey	NW FR	18	12S	2W	116.4	Aug.7 1854
Wm. D. Larkey	SW NE	18	12S	2W	40	Aug.7 1854
Jonathan B. Mayers	SW FR	7	12S	2W	158	Aug.7 1854
George Turner	NE NE	6	12S	2W	53.5	Mar.7 1854
Abraham Yoeman	NW NE	6	12S	2W	53.5	Mar.7 1854

Note: FR = fractional section, Sub = subdivision

*Aaron Hames land entry of Jan.25 1838 of 176.4 acres is just over the 1/4 section and probably represents the shape of the existing island at the time of purchase.

Table 2

*Previously Recorded Prehistoric Sites Within the
Batchtown Management Area

IAS #	T	R	S	Quarters	Component	NRHP Status
11-C-85	12S	2W	18	SW NE NW NE	Mississippian	Not Evaluated
11-C-15	12S	2W	18	Center SE SE NE	Woodland	Not Evaluated

* The location of the sites is based on information provided in the Scope of Work.

Throughout the eastern United States, during the early 1830s, an increase in land settlement and land speculation led to a dramatic increase in land sales. The adoption by banks of a policy of unlimited credit, together with the inflated value of paper money, had resulted in a false impression of prosperity. This led to a flurry of people purchasing land under the impression that it could be resold for a huge profit (Krenkel 1958:47). During this time, Illinois was swept by a wave of land speculation coupled with a mania for internal improvements. The amount of public land sold in Illinois increased almost ten fold within two years from 354,010 acres in 1834 to 3,199,703 acres in 1836. Following the panic of 1837, land sales dropped dramatically and did not recover until the mid 1850s.

By the latter 1840s land sales again began to increase. Between 1847 and 1855 Congress authorized the issuance of warrants, each good for 160 acres, to soldiers who participated in the Mexican War and the Indian Engagements. These warrants were legally assignable and could be purchased at county seats (Howard 1972:257). As a result, the government received nothing and land speculators invested less than \$1.25 in their land-warrant holdings. This activity was not unusual. Paul Gates, a leading Illinois historian, has found that after 1850, more Illinois land was exchanged for military warrants than was sold for cash (Howard 1972:158).

In 1852 Congress passed the Graduation Act that reduced the price of land that had been for sale for ten years or more. The price of the land was based on how long the land had been available, with the minimum price set at \$.12 ½ an acre. Thirty percent of the acreage within the project area was originally purchased after 1852 and before 1854.

In summary, the majority of the land within the Batchtown HREP was purchased as part of the Military Tract in 1817 and 1818. During the 1850s, in the period when military warrants and low land prices spurred a flurry of land purchases, approximately one quarter of the Batchtown HREP lands was purchased. The fact that a significant portion of the Batchtown HREP acreage was not purchased earlier attests to its low agricultural value. Being topographically low

and subject to repeated inundation from floods, there are indications that the early value of the land came from the timber that was cut and sold to passing steamboats.

Previous Archaeological Investigations

Information provided by the Illinois Historic Preservation Agency (IHPA) indicates that little systematic archaeological work has been conducted within the Bathtub HREP, but that two previously recorded prehistoric sites are located within the boundaries of the project area. The previously recorded sites include site 11-C-85, a Mississippian village located on an island in the southeast portion of the project area, and site 11-C-15, a Woodland village located at the base of the river bluff at the mouth of Madison Creek (Table 2; Figure 5).

Prior to the present survey, only three cultural resource investigations had been conducted within the Bathtub HREP. In 1978, an archaeological survey was conducted of a section of the Mississippi River shoreline in the west-central portion of the Bathtub HREP, from the boat ramp located at the south end of the existing riverside levee (Turner Hollow Road boat ramp) to a point .5 mile upstream (Udesen and Koski 1978). No prehistoric or historic sites were located during the 1978 shoreline survey. In 1987, a literature and records search was conducted for the Bathtub Management Area as part of the IDOC Cultural Resource Management Program studies at IDOC managed properties across the state (Clifton 1989). The Bathtub Management Area (BMA), which consists of approximately 113.7 ha of land and 723.6 ha of uncontrolled water areas (Clifton 1989:71), encompasses the southern half of the Bathtub HREP. The 1987 IDOC cultural resource study of the BMA also included a geomorphological investigation of a section of the Mississippi River floodplain located in the central portion of the Bathtub HREP (Van Nest 1989). The results of the two IDOC investigations are discussed in detail below.

Since 1985, the Illinois Department of Conservation (IDOC), in cooperation with the Illinois State Museum (ISM), has conducted a series of cultural resources evaluations at IDOC state parks and recreation areas. These evaluations have involved literature and records reviews, informant interviews, and field survey. A literature and records review made during the 1987 IDOC study indicated that five potential historic sites were located within the BMA (Clifton 1989:74-75). These historic properties were identified on the 1934 Hardin 15' USGS topographic map. Two structures were identified as located at Wilson's Landing, but these sites had been inundated by back flooding from Lock and Dam No. 25. Of the three remaining historic sites (Figure 6; Table 3), potential site 1, located in the center SE SE NE of Section 12, T12S-R3W, was identified as a possible farmstead at the mouth of Madison Creek Hollow, potential site 2, located in the NE NW NW NE of Section 7, T12S-R2W, was identified as a possible hunting/fishing camp on the bank of the Mississippi River, and potential site 3, located at the SW SW NW SE of Section 7, T12S-R2W, was categorized as an unidentified site located on a small interior rise on the floodplain (Clifton 1989:74). Of the three sites mentioned above, only potential site 1 was located within the boundaries of the present survey area. No evidence of the structure was found during the present survey.

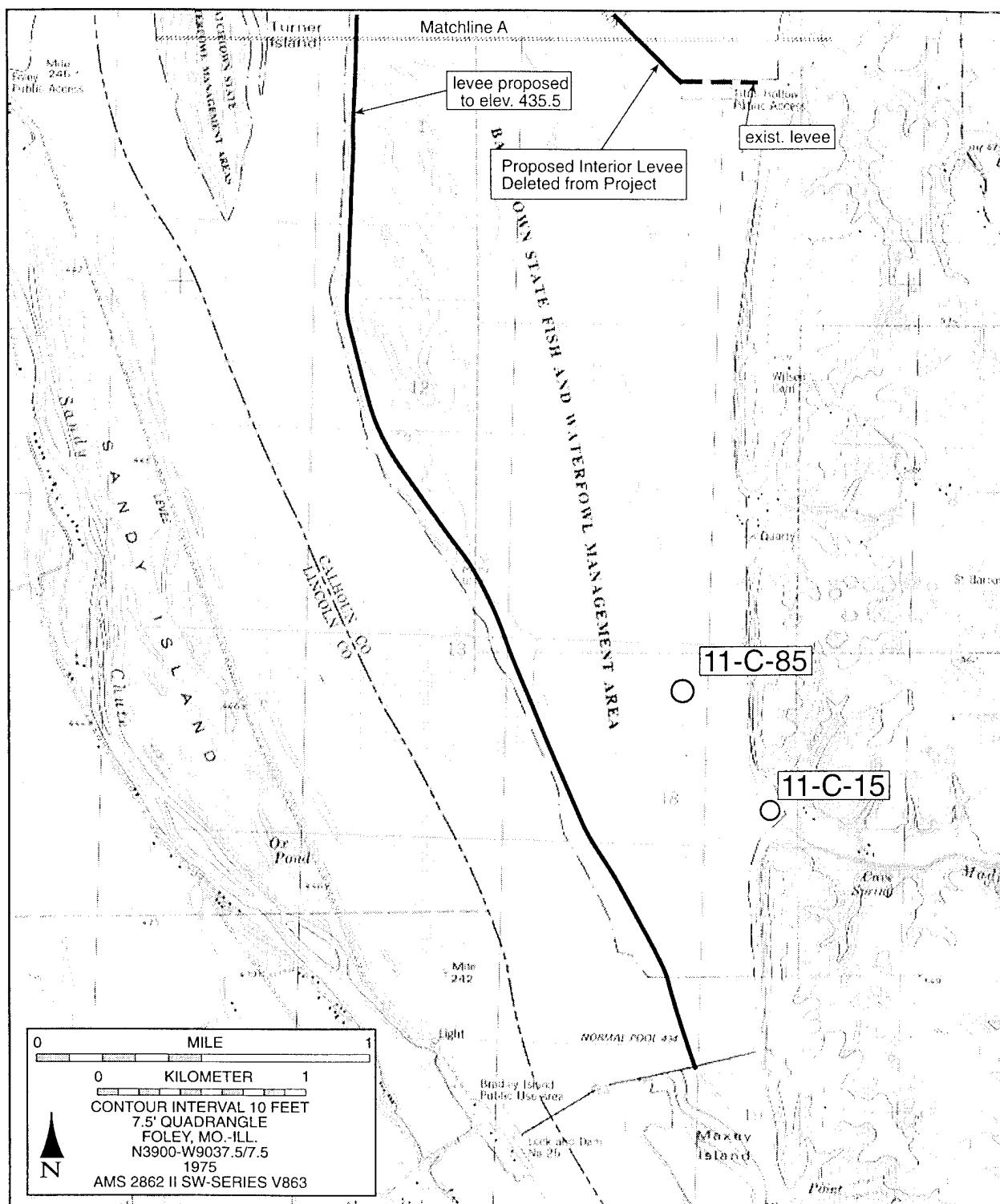


Figure 5. Location of previously-recorded prehistoric sites within the Batchtown HREP.

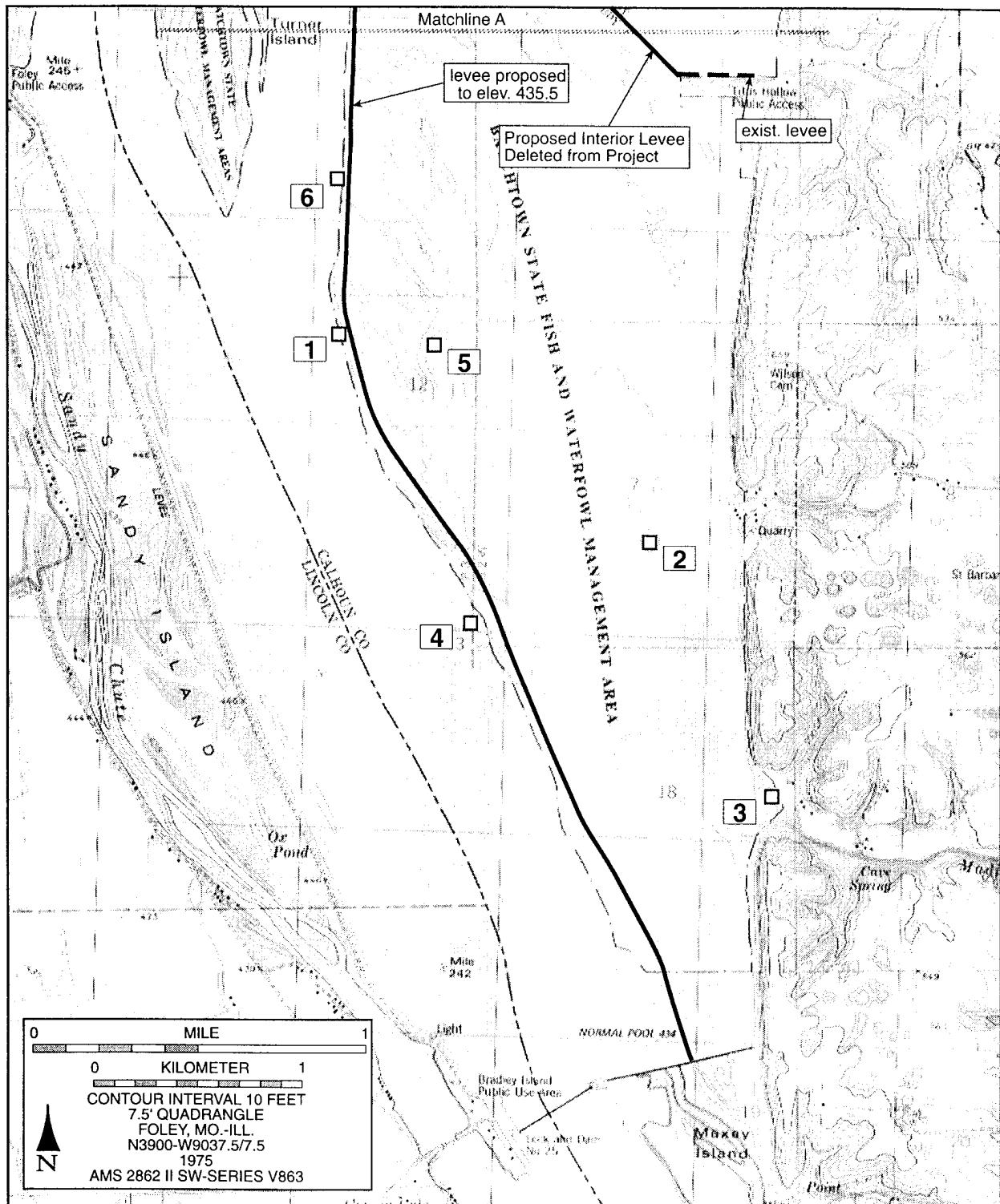


Figure 6. Location of potential historic sites within the Batchtown HREP (southern portion).

The 1987 IDOC geomorphological survey within the Batchtown project area involved taking a series of soil cores designed to assess the potential for buried cultural deposits below recent alluvium (Van Nest 1989). Nine soil cores were taken in the central portion of the Batchtown HREP during the investigation, one at the north end of the BMA and eight at the south end of the FWS managed Mark Twain National Refuge-Batchtown Division. The cores ranged in depth from .45 m to 5.5 m below ground surface. The soil cores were taken with both a trailer-mounted Giddings hydraulic soil probe and a hand driven Oakfield soil probe. No evidence was found of buried cultural deposits. The study concluded that there was little potential for locating Archaic or earlier sites in the management area and a small chance of locating late prehistoric sites along the riverbank and interior floodplain ridges (Van Nest 1989). However, the study did not rule out the possibility of very late prehistoric (especially Mississippian) and early historic sites along the interior floodplain ridges. Absent from the report is reference to site 11-C-85, a Mississippian village located on an island along the river at Sand Bay (Figure 5; Table 2). This site appears to be covered by recent sediments. The presence of this site indicates that the left bank of the Mississippi River, in the project area, has been relatively stable over the past 2,000 years, and that there is the potential for locating late prehistoric sites, including the possibility for buried sites, along the bank of the river. The report also does not mention site 11-C-15, a Woodland site located at the mouth of Madison Creek Hollow (Figure 5; Table 2), or Snyders Mound, which is located along the bluff line outside of the project area.

A records and literature review conducted by the Corps of Engineers prior to the present investigation identified sixteen potential historic sites within the Batchtown HREP, including those identified by Clifton (1989) (Figure 6 and 7; Table 3).

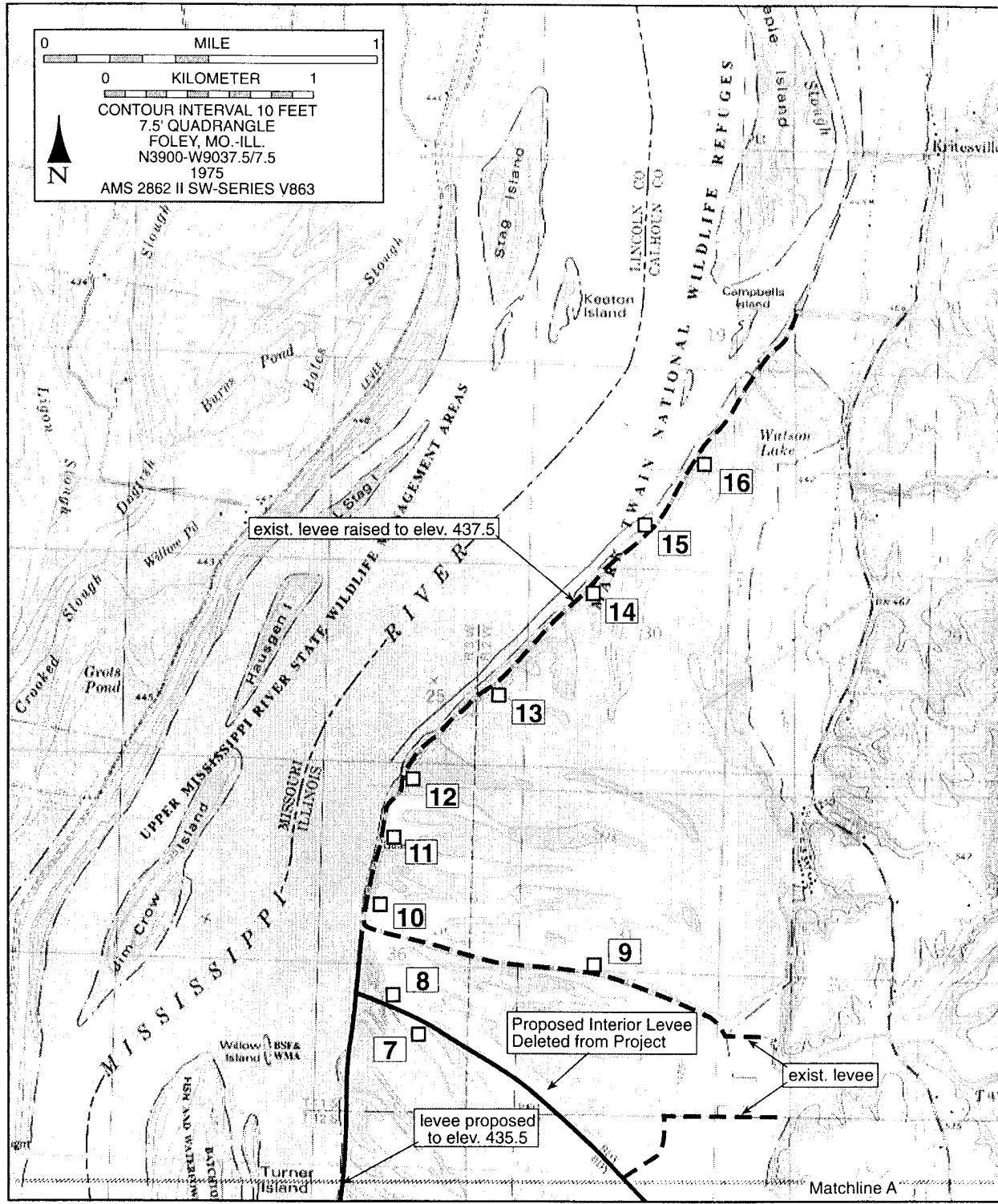


Figure 7. Location of potential historic sites within the Batchtown HREP (northern portion).

Table 3. Potential Historic Site Information, Batchtown HREP.

SITE	MAP/ DATE*	T	R	S	QUARTER	SITE TYPE
1**	1891	12S	3W	12	NE,NW,NW,NE	Wilson Landing
	1934					Structure
2**	1934	12S	3W	7	SW,SW,NW,SE	Structure
3**	1934	12S	3W	18	Center,SE,SE,NE	Structure
4**	1931	12S	2W	7	SW,SW,SW,SW	Structure; Wilson Landing
	1934	12S	3W	12	SE,SE,SE,SE	
						Structures (n=2); Wilson Landing
5	1931	12S	3W	12	Center,NE,NE	Structure
6	1931	12S	3W	1	NE,SW,NW,SE	Structure
7	1931	11S	3W	36	NE,NW,SE,SE	Structure
	1934					Structure
8	1931	11S	3W	36	NW,SW,NE,SE	Structure
9	1931	11S	2W	31	NW,NE,NE,SW	Structures (n=2)
10	1931	11S	3W	36	NE,SE,SW,NE	Structures (n=4)
	1934					Structure

Table 3. Potential Historic Site Information, Batchtown HREP.

SITE	MAP/ DATE*	T	R	S	QUARTER	SITE TYPE
11	1931	11S	3W	36	NE,SE,NW,NE	Structures (n=4)
	1934					Structure
12	1891	11S	3W	25	SW,SW,SE,SE	Turner Landing
	1931					Turners Landing
	1934					Turner Landing; Structure
13	1891	11S	2W	30	SE,SW,NW,SW	Bellamy Landing
	1931					Bellamy Landing
14	1931	11S	2W	30	NW,SE,SE,NW	Structure
15	1931	11S	2W	30	NW,SW,NW,NE	Churchs Landing
	1934					Hogville Landing
16	1934	11S	2W	19	SE,SE,SW,SE	Structure

*Map Sources: U.S. Army Corps of Engineers, Survey of the Mississippi River, Charts No. 121 & 122 (1891); U.S. Army Corps of Engineers, Upper Mississippi River, Hastings, Minnesota, to Grafton, Illinois, Survey 1929-1930 (1931); USGS Hardin, Ill.-Mo., 15' Quadrangle Map (1934).

** Potential historic sites identified by Clifton (1989).

CHAPTER IV. RESEARCH DESIGN AND METHODOLOGY

Introduction

The following research design is guided by the rather diverse yet interrelated variables which are inherent to the practice of cultural resources management. These variables include the contract requirements as stated in the scope of work, topographic and vegetational conditions in the study area, and the level of proposed effort.

Research Design

The general theoretical approach employed by researchers at American Resources Group, Ltd., may be classified within the cultural-ecological tradition in American archaeology. This tradition may be traced to studies of anthropological theorists such as Steward (1955), Sahlins and Service (1960), and Service (1962), and has been developed as an archaeological approach in the writings of Binford (1972), Flannery (1968), Ford (1977), and Watson et al. (1971). Cultural ecologists view culture in systemic terms and regard it as the primary mechanism by which human beings adapt to their environments. Cultures are viewed as open-ended, dynamic systems that change over time in response to environmental changes, biological constraints, and interaction with other cultural systems. Archaeological research carried out in a cultural ecological framework involves reconstructing past cultural systems in their environmental settings, charting the trajectory of change over time, and identifying sociocultural and environmental processes that can explain the change observed during the study of particular cultural systems.

In its broadest sense, archaeological research focuses on how human populations adapted to their particular environments and how the resulting cultural complexes changed through time in response to changing environmental and social conditions. Cultural changes can be inferred from the archaeological record with varying degrees of success through comparative analyses of artifactual remains as manifested by technology, settlement/subsistence systems, human biology, social organization, and ideology. It is acknowledged, however, that an overall rendering of past human organizations cannot be realized due to the limitations of archaeology and the small size of the project area. The information recovered by the survey may offer some information on settlement patterns (site locations) and possibly some limited information on technology (chert procurement and stone tool production), but other questions about extinct cultural systems cannot be addressed.

The research design for the current project was based on the contract requirements as specified in the project scope of work (Appendix A), and on geomorphological, topographical, and vegetational conditions in the study area. In keeping with the primary objectives as specified in the scope of work, this research effort focused on the location and assessment of cultural resources within the project area. The relatively small size of the project area limited the types of research questions asked and the types of archaeological data encountered and that can be recovered from shovel tests.

Prehistoric Sites

For the purposes of the project, a site was defined as a "spatial cluster of cultural features, items, or both" (Binford 1972:46). This definition applies to both prehistoric and historic archaeological sites. Archaeological context may be defined by including any of the following: soil staining, associated fire-cracked rock, ceramics, features, or a concentration of materials within a reasonably definable spatial boundary. Localities designated as sites may be differentiated further into site types. The following prehistoric site type model (Binford 1980:8-10) will be used for site discussions and interpretation within the project area.

Habitation Sites. Habitation sites contain cultural deposits related to seasonal occupation and may include subsurface features. Organic staining indicative of residential structures and task-specific activities may be represented. Site size is moderate to extensive. Density of cultural debris and diversity of artifact classes are moderate to large. Two kinds of habitation sites may be defined.

Residential Base or Village. These are the hub of subsistence activities, the locus out of which foraging parties originate and where most processing, manufacturing, and maintenance activities take place (Binford 1980:9). Residential base camps may be manifested in the archaeological record as large sites with a high artifact density and a wide diversity of tools and other artifacts. Cultural features are usually present.

Field Camp. A temporary operational center for a task group which maintains itself while away from the residential base and may be expected to be further differentiated according to the nature of the resources to be procured (Binford 1980:10). The task groups may function to procure resources for social groups much larger than themselves; sites may vary considerably, depending upon the size of the group and the nature of tasks to be performed. Subsurface features may be present.

Limited Activity Sites. These sites contain no subsurface features or structures or cultural deposits of substantial integrity related to seasonal occupation on the site. Organic staining is absent. Site size is generally small and they are occupied for only a short period of time. Density of cultural debris and diversity of artifact classes are limited severely due to the extractive nature of the limited activity.

Historic Sites

Historic archaeological sites were treated similar to prehistoric sites. Based on previous investigations in southern Illinois (McCorvie 1987a; McCorvie 1989) and the historic background of the region, three types of historic sites potentially were located within the project area.

Farmstead Complex. This type of site consists of a house and associated outbuildings; several of the potential historic sites identified through the literature and records reviews that have been conducted for the Batchtown HREP (Table 3; Figures 6 and 7) may be examples of this site type. Farmstead house structures were either log or frame. The foundation was generally made of sandstone, limestone, or brick and was either a pier or full perimeter foundation. Outbuildings and facilities that surrounded the house structure within a 15 m radius included the smokehouse, cellar, well, cistern, and privy.

Farmsteads often contain a separate barnyard area located within a 200 m radius of the domestic area. Structures and facilities in this area included the barn, corn crib, paddocks, gardens, and fruit orchards (McCorvie et al. 1989). Located at an even greater distance from the domestic area are the fields, pastures, hog lots, and other agricultural facilities of the farmstead.

Artifacts which are present on farmsteads included nails and other construction materials; brick; sandstone; limestone; earthenware; stoneware; window glass; bottles; canning jars; pressed glass containers; metal objects; toys such as marbles, slate pencils and boards; pipes; buttons; and various domestic items. Ceramics usually represent a sizable percentage of the total number of artifacts with a larger ratio of earthenware to stoneware. A relatively high percentage of earthenware is generally a good indicator of a habitation site. The quantity and quality of artifacts reflect the economic status of the site.

Dump or Discard Locations. These sites originate strictly for the purpose of depositing refuse from other sites. Dump areas generally consist of larger objects such as worn-out machinery parts, portions of demolished outbuildings, and large household items. Gullies, ravines, or steep slopes are likely places for dumps. Smaller items such as broken ceramics are often discarded closer to the activity area.

Hunting/Fishing Camps. A possible hunting or fishing cabin is shown as being located within the project area on the 1934 Hardin 15' USGS topographic map. This may represent a seasonally occupied camp for either fishing or hunting of migratory waterfowl. Structures at this type of site may also include blinds, shacks, and other temporary shelters such as lean-tos. The temporary nature of the occupations should be reflected in a restricted artifact inventory. Expected artifact types include personal items such as buttons and pipes as well as faunal remains, liquor bottles, cans, ammunition, and fishing tackle. Site size should be small with few or no subsurface features present.

Research Methodology

The research methodology was designed to meet a series of specific tasks including records search and literature reviews, archaeological field investigations, geomorphological investigations, laboratory analyses, report preparation, and curation of recovered materials.

Records and Literature Review

A records and literature review of the project area was conducted prior to the start of field work. The objectives of the prefld research were to determine if known archaeological sites existed within the project area. Information provided by the Illinois Historic Preservation Agency to the Corps of Engineers, St. Louis District, was consulted to obtain information regarding previously recorded archaeological sites in the project area. This revealed that there are two known prehistoric archaeological sites within the Batchtown HREP, but that both are located outside the survey area. Review of past archaeological investigations in the area revealed that there may be additional historic sites within the project area (Clifton 1989). The National Register of Historic Places was studied, and it was determined that for the survey area no sites were currently on the Register nor were there any sites pending nomination for the Register.

Archival sources consulted for information on presettlement vegetation in the project area included, a historic vegetation pattern study based the original Government Land Office (GLO) survey notes and plats (Iverson 1989). As a part of the archival research, old Army Corps of Engineers river channel maps (1891, 1931) and a United States Geological Survey topographic map (1934) of the project area were studied for any indication of historic sites that might have been plotted there upon. Published sources consulted for background historical information included a history of Calhoun County, Illinois (Carpenter 1967). Information regarding the potential locations of historic structures in the project area as summarized by Clifton (1989) also was consulted.

Field Investigations

The archaeological survey was conducted for a period of five days between June 8 and June 12, 1994. The project area consists of the construction corridors of the existing and proposed riverside (exterior) and interior levees, and the locations of seven proposed water level control structures (Sec. 2.3.1-2.3.5, S.O.W., Appendix A). The total area contained in the project area is approximately 121 acres.

The construction corridors of the existing and proposed levees include five borrow areas that will be excavated to a depth of approximately 1 foot (30 cm). The maximum depth of ground disturbance associated with the construction of the existing and proposed riverside and interior levees is 1-2 feet (30-60 cm).

The proposed riverside levee (IDOC) will consist of a 2.8-mile-long, low-profile earthen levee paralleling the Mississippi River shoreline and connecting the existing FWS levee and Lock and Dam 25. The maximum width of the proposed riverside levee construction corridor is 190 feet. The existing riverside levee (FWS) will be raised and widened. The construction corridor of the existing riverside levee is approximately 2.1 miles long and 100 feet wide.

The proposed interior levee will consist of a 1.1-mile-long, 195-foot-wide low-level levee connecting the proposed riverside levee (FWS) and the existing ring levee near the bluff line; the interior levee, however, was deleted from the project in the Spring of 1995. The existing interior levee (FWS) will be raised and widened. The construction corridor of the existing interior levee is approximately 1.3 miles long and 100 feet wide (50 feet on either side of the levee).

The construction locations of seven water control structures, including four stop log drainage structures and three pump stations, required surveying. All of these structures are to be constructed at locations that appeared, prior to the start of field investigations, to be undisturbed by previous construction. However, the locations of the four stop log structures and the pump station that are to be constructed in the proposed riverside levee (IDOC) were found to lie in narrow channels connecting the Mississippi River and the large body of open water in the Batchtown Management Area, and the location of the pump station to be constructed at the southeast end of Turner Island was found to lie on an existing dike. As a consequence, none of these construction locations could be investigated. The one proposed water control structure that could be investigated is a pump station to be constructed in the proposed riverside levee (IDOC), at the Turner Hollow Road boat ramp. The construction of this pump station will disturb an area measuring approximately 450 feet x 100 feet to a depth of about 6 feet (180 cm).

Complete survey coverage was accomplished by a two-person field party and a geomorphologist. Survey techniques were implemented in accordance with sections 4.2 and 4.7-4.8 of the project scope of work (Appendix A). The geomorphological investigation of the project area was carried out prior to the initiation of the archaeological survey. The geomorphological investigation was conducted to determine the depth of the post settlement alluvium (PSA) deposit within the proposed levee construction corridors, and to investigate the potential for buried cultural resources at locations where the maximum depth of construction impact may extend below these recently-deposited sediments. The methods employed during the geomorphological investigation, which included a combination of soil coring and backhoeing, are described in detail in Chapter V. The archaeological survey of the project area was conducted using three field techniques: systematic walkover, systematic screened shovel testing, and systematic surface survey.

The portion of the project area covered by more than 60 cm of PSA was investigated through systematic walkover survey. This field technique was used to survey the portion of the construction corridor of the existing exterior levee located north of ST-11, and the portion located south of ST-14 (see Chapter V, Figures 8 and 9). Walkover survey generally was conducted along two or more transects spaced 20 m apart, although the previously-identified locations of potential

historic sites were searched more intensively. Nevertheless, no cultural resources were identified within the portion of the project area examined through walkover survey.

The portion of the project area covered by 20-60 cm of PSA was shovel tested on a 10-15 m grid. This field technique was used to survey the portion of the construction corridor of the existing exterior levee located between ST-10 and ST-15, all of the construction corridors of the three existing interior levees, and, with the exception of a .4-mile-long section at its western end (discussed below), all of the construction corridor of the proposed interior levee (see Chapter V, Figures 8 and 9). Shovel tests are holes approximately 35 cm - 45 cm in diameter that are dug to a depth sufficient to observe culturally undisturbed soils. The procedure followed during this part of the investigation, except at locations where artifacts had been observed on the surface, involved removal of the PSA deposit and screening (1/4" mesh) of the underlying soil to a depth of approximately 60 cm below surface. Each shovel test was backfilled after inspection of its contents was completed. Pacing was used to control the intervals between transects and shovel tests.

The horizontal boundary of each site located through shovel testing was established through the excavation of two consecutive negative shovel tests on a transect, or when the topography and ground slope indicated the boundary could be logically inferred. A sketch map showing the location of positive and negative shovel tests, the site limits, any topographical and cultural features that might be used to relocate the site, and the location of visible structural remains was prepared for each site recorded.

A .4-mile-long section of the western end of the construction corridor of the proposed interior levee is covered by less than 20 cm of PSA, and is located in a cultivated field that was planted in 2-inch-high corn at the time of survey. This portion of the project area, which runs from a point .1 mile east of the intersection of the proposed exterior and interior levees to a point .5 mile east of the intersection (see Chapter V, Figures 8 and 9), was surface surveyed along transects spaced 5 m apart. Every prehistoric artifact observed on the surface during survey was flagged, point plotted, and, with the exception of unmodified cobbles, collected. A sketch map showing the distribution of surface material, site limits, and any topographical and cultural features that might be used to relocate the site was prepared for each site recorded. The limits of historic artifact scatters were flagged and mapped, and a selective sample of artifacts was collected.

Laboratory Analysis

This task consisted of a comprehensive analysis of the artifacts and other site data at the facilities of American Resources Group, Ltd., Carbondale, Illinois. Recovered materials were washed, sorted, and cataloged. Prehistoric and historic materials were identified according to material, manufacture, and function.

Prehistoric Artifact Analysis. Raw materials were washed and labeled, and then were sorted into raw material types and tool and debitage categories. Chipped-stone materials from all

sites within the project area were sorted into one of three different chert type categories; then, they were sorted into one of 13 different tool and debris categories.

Raw Material Analysis. Raw material identification was based upon macroscopic inspection of artifacts in conjunction with an extensive comparative collection of geologic samples collected from source areas (Koldehoff 1986). Chert artifacts were sorted into three types on the basis of color, texture, inclusions, and form. Chert types were quantified by count and weight, with weights rounded to the nearest 0.1 of a gram. Raw material type descriptions are presented below.

Burlington. Burlington chert is derived from the Burlington Limestone of the Lower Valmeyeran Series of the Mississippian System. The Burlington Formation is rich in chert and is widely exposed along the Mississippi River and the Illinois River north of St. Louis, Missouri. Burlington chert, on average, is moderate- to high-quality, white to light gray in color, and occurs as residuum and as bedded layers in limestone.

St. Louis Common. St. Louis Common chert derives from the St. Louis Formation of the Upper Valmeyeran Series of the Mississippian System. This moderate- to high-quality chert is dark to light gray in color, has a smooth texture, and occurs in bedded form and as blocky stream gravel. The most likely sources of the St. Louis Common chert identified in the site collections are the creeks draining the uplands of extreme southern Calhoun County (3-10 miles south of the project area), an area underlain by Upper Valmeyeran Series formations (Willman et al. 1967).

Indeterminate. Artifacts placed in this category include unusual variants that could not be duplicated in the comparative collections, and those that could not be identified because of their small size or thermal damage.

Technological and Functional Analysis. Observations on user wear and morphology were used to sort tools and debris into 13 different categories. The categories are quantified by count. A 10x hand lens was used to examine the edges and surfaces of artifacts. Admittedly, this approach is not as precise as when high magnification is employed (e.g., Keeley 1980), but the goals of the analysis were simple: (1) separate tools from debitage, and (2) place tools into general technological and functional categories. Debitage was separated into categories on the basis of specific attributes such as amount of dorsal cortex, degree of platform faceting and lipping, flake shape and curvature, and overall size. Tool and debitage analysis was aided by prior experiments in stone tool production and use. Materials from these experiments were on hand for comparative purposes.

Cores. A core is any cobble or piece of chert from which one or more flakes have been removed but which has not been shaped into a tool or used extensively for a task other than that of a nucleus from which flakes have been struck. Cores range from chert cobbles or chunks that have had one or more flakes removed in a random fashion (amorphous cores) to

highly formalized prepared cores that produce standardized flakes (conical or blade cores). Tested cobbles are also placed in this category; these artifacts are raw pieces of chert that have had one or two flakes removed to test the knapping quality of chert.

Primary and Secondary Decortication Flakes. The amount of cortex is the distinguishing characteristic of these categories. Flakes and sizable flake fragments with greater than 50% dorsal cortex were placed within the primary decortication category, and those with 25-50% dorsal cortex were classified as secondary decortication flakes. Primary and secondary decortication flakes represent the first series of flakes detached from a nodule or cobble.

Tertiary Flakes. Flakes within this category possess no more than 25% dorsal cortex and do not exhibit attributes typical of biface thinning and retouching (resharpening) flakes. Tertiary flakes tend to be larger and more flattened in curvature than biface flakes, and they generally have irregularly shaped platforms with less than four facets. Tertiary flakes are by-products of the early stages of biface reduction as well as by-products of simple flake-tool production.

Biface Thinning and Retouching Flakes. Flakes in these categories exhibit attributes indicating their removal during the later stages of biface production (Biface-1 Flakes) or during biface maintenance (Biface-2 Flakes). Biface flakes possess platforms with an elliptical shape, multiple facets (four or more), lipping, and acute angles. The platforms are minute sections of what was the edge of the biface. Biface-1 flakes are substantially larger and more curved than biface-2 flakes.

Broken Flakes. Flake fragments that can not be readily identified as one of the above flake types are placed in this category. Flakes may be broken during any stage of reduction or by post-depositional factors such as trampling.

Angular Fragments. Chert fragments within this category include angular chunks and small splinters. These fragments are produced during stone tool manufacture, particularly if (1) poor quality (e.g., internally fractured) chert is used, (2) bipolar reduction is employed, and (3) lithic items are intensively reworked or recycled.

Informal Flake Tools. Flakes placed within this category functioned primarily as cutting and light-weight scraping tools with little to no prior modification. They are expedient flake-tools made from tertiary flakes, other flake types, as well as shatter. The most common forms of informal flake tools recovered from sites are simple flake knives and scrapers.

Formal Flake Tools. Included within this category are all formalized and specialized flake tools--endscrapers, sidescrapers, gravers, denticulates, and notches or spokeshaves. Depending upon degree of modification, some of these tools could be considered expedient flake-tools, but they are placed here because they are more specialized in their

morphology (and inferred function) than the simple flake knives and scrapers in the previous category.

Blanks/Preforms. A biface can be defined as a flake or cobble that has had multiple flakes removed from dorsal and ventral surfaces. Bilateral symmetry and a lenticular cross-section are common attributes; however, these attributes vary with the stages of production, as do thickness and uniformity of the edge. Included in this category are unfinished hafted bifaces. This category was divided into two subcategories:

Blanks. Unfinished hafted bifaces placed in this category are thick (relative to preforms), bilaterally asymmetrical, lack a lenticular cross-section, have irregular, sinuous edges, and frequently have small amounts of cortex remaining on edges and faces. Blanks are produced during early to intermediate stage biface production.

Preforms. Unfinished hafted bifaces placed in this category exhibit the attributes that are characteristic of finished hafted bifaces, but lack a hafting element. Preforms are produced during late stage biface production.

Projectile Points/Hafted Knives. These formal tools were predominantly designed to be hafted, and they functioned as projectile points and/or knives. Included in this category are hafted bifaces that were recycled into hafted scrapers.

Unspecified Bifaces. Nondiagnostic fragments of bifacial flaked tools were placed in this category, for example, distal tips and midsections of projectile points.

Unmodified Cobbles. Intact cobbles that do not possess traces of use, but that are inferred to have been culturally introduced to a site, are placed in this category.

Historic Artifact Analysis. Historic artifacts were identified according to material, manufacture, and function. Diagnostic artifacts were identified and dated by the use of appropriate references. For ceramic identification and temporal affiliation, the classifications and chronologies formulated by Brown (1982), Lofstrom (1976), Majewski and O'Brien (1984); McBride (1984), Price (1979), South (1977), and Wegars and Carley (1982) were utilized. Glass identification and temporal affiliation followed studies by Deiss (1981), Lorrain (1968), and McKay (1979). Other references were utilized in the functional and temporal identification of items other than ceramics and glass (e.g., Nelson 1968).

Material Analysis. Processed artifacts were first separated into broad material categories. The following categories were employed for this portion of the historic artifact analysis.

Ceramics. The initial identification was of ware type, such as whiteware, ironstone, yellowware, or stoneware. Ironstone is a white pasted and refined ceramic fired at a

higher temperature with a petuntse (a form of feldspar) inclusion within the paste. This results in a more durable and less porous ware (Sandefur et al. 1995). Identification is problematic in historic artifact analysis; therefore, for this analysis it was defined as a highly fired, refined earthenware that does not exhibit porosity when touched to the tongue, can have a "cold" grayish color to the paste, and/or is identified as "ironstone" on a maker's mark. Stoneware is unrefined utilitarian ware initially designed for the most everyday functions. Common surface finishes on stoneware were slip, salt, alkaline, Albany and Bristol. Slips are thin mixtures of water and colored clays that impart a uniform color to the vessel when fired (Watkins 1968:11). Salt, a flux agent, fused with the clay body of the vessel and coated the exposed surfaces with a thin clear glaze. The degree of gloss depended on the amount of salt; the more salt that was added, the higher the shine on the finished vessel. Alkaline glazes were produced by mixing wood ash with water to produce lye, which, when mixed with powdered clay resulted in a streaky, greenish-brown glaze on the vessel. Alkaline glazes were produced almost exclusively in the southern part of the country (Wagner & McCormie 1992). Albany glaze was produced when the vessel was coated with a natural alluvial clay found along the Hudson River, near Albany, New York. As the ware was heated, the Albany clay melted and formed a dark brown glaze (Greer 1981). White Bristol glaze was produced by adding calcined zinc oxide to the glaze, replacing earlier lead glazes that had been recognized as health hazards (Rhodes 1973:180). Albany and Bristol glazes were very much in demand during the late nineteenth and early twentieth centuries. During this same period, salt and alkaline glazed wares declined in popularity.

Decorative treatment was noted for all of the ceramics and, where possible, production date ranges were assigned. A mean ceramic date was calculated for each site using South's (1977:217) formula, and production date ranges provided by Brown (1982), Lofstrom (1976), Majewski and O'Brien (1984), McBride (1984), and Price (1979). Calculating a mean ceramic date for a site requires that the midpoint of the production date range of each ceramic style category represented in the site collection be identified, which, in turn, requires that both the beginning and end dates of the production date range of each of those style categories be known. When a ceramic style having a production date range that extends to the present is used to calculate a mean ceramic date, the date of site abandonment, if known, is used as an end date. The midpoint of the production date range of each ceramic style category, together with the midpoint date of each of the artifact styles represented in the material categories described below, also is used to calculate an overall mid date for each site. Finally, morphological aspects relating to function were identified where possible.

Glass. Glass making underwent a "revolution" of change during the nineteenth century, resulting in numerous identifiable temporal markers. These manufacturing characteristics and their respective temporal ranges were identified for bottle/jar, tableware, window, and miscellaneous glass. The color and function of the glass items also were noted. Bottle glass, in particular, was analyzed according to Deiss' (1981) classification, terminology, and definition.

Metal. These items were identified as to type of material (e.g., iron) and function (e.g., nail, bolt, stove part, etc.). Where possible, the technique of manufacture was identified, especially in the identification of nail types (e.g., wire nail).

Construction Materials. This category includes brick, mortar, cement, sandstone, and limestone.

Functional Analysis. Following the initial inventory, historic artifacts were separated into functional categories adapted from Ball (1984) and Rogers et. al. (1988). These categories include: (1) kitchen (ceramic and glass serving, preparation and storage vessels for food and beverages, and nonfood related bottles); (2) personal (clay marble and glass button); and, (3) architecture (window glass, nail, bolt, door part, stove part, brick, mortar, and limestone).

Curation

All artifacts or cultural materials collected during this project, as well as the project notes, photographs, and other data generated during the performance of these contract services, are being temporarily curated at American Resources Group, Ltd. This allows access to these materials during the analysis and report writing stages of this project. The St. Louis District has a curation agreement with Illinois State Museum, Springfield, and all materials from the project will be curated at that facility.

CHAPTER V. GEOMORPHOLOGICAL INVESTIGATIONS

Introduction

This chapter describes the results of geomorphological investigations conducted at the Batchtown HREP during the present survey. The purpose of the investigation was to determine the relative ages of surfaces within the project area, and to evaluate the potential of those surfaces for containing cultural resources.

Methods

The geomorphological investigation consisted of a combination of soil coring and backhoe trenching. Twenty "JMC" sampling tube cores were advanced and described at 20 soil testing (ST) locations within the levee-construction corridor (Figures 8 and 9). Most of the cores were advanced to a depth of 100-140 cm, but were extended to depths of 170-180 cm in areas where deeper construction impacts are proposed. One backhoe trench, Trench 1, was excavated at the construction location of the pump station to be built near the Turner Hollow Road boat ramp (Figure 8).

The depth of the post settlement alluvium (PSA) deposit identified in each of the cores, as well as data relevant to characterizing soils encountered below the historical deposits, was recorded, and each of the soil testing locations was photographed and plotted on a U.S.G.S. topographic map. The recorded depths of the PSA deposits identified at the soil testing locations and the backhoe trench are presented in Table 4. Soils were described in terms of color, texture, structure, consistency, sorting, special features (roots, pores, voids, mottling, gleying, concretions, organics, clay skins), effervescence and/or pH, and horizon boundary. The colors of the deposits were determined with a Munsell color chart. Soil reaction was determined through application of a weak 14% hydrochloric acid solution. Vegetation, depth to the water table, and total core depth were recorded at each location. The profiles were described according to taxonomic nomenclature normally used for Midwest Quaternary studies.

Results

Two distinctive landscapes are represented in the project area, one dating to the early to mid Holocene and the other to late Holocene to historic period. The early Holocene surface lies along the central portion of the Batchtown HREP, while all other areas within the project area

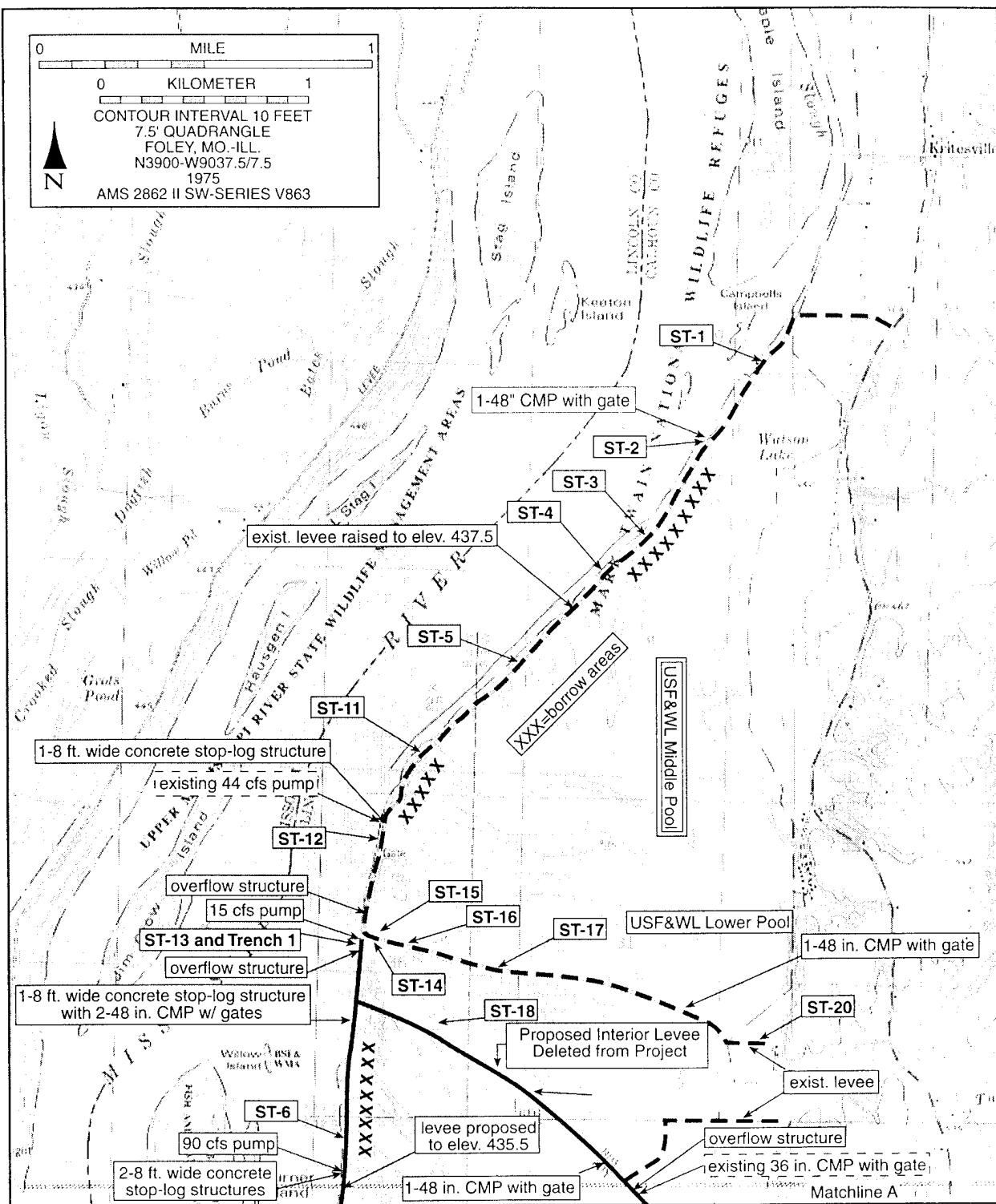


Figure 8. Soil test (ST) locations ST-1 – ST-6, ST-11 – ST-18, ST-20, and Trench 1 within the Batchtown HREP.

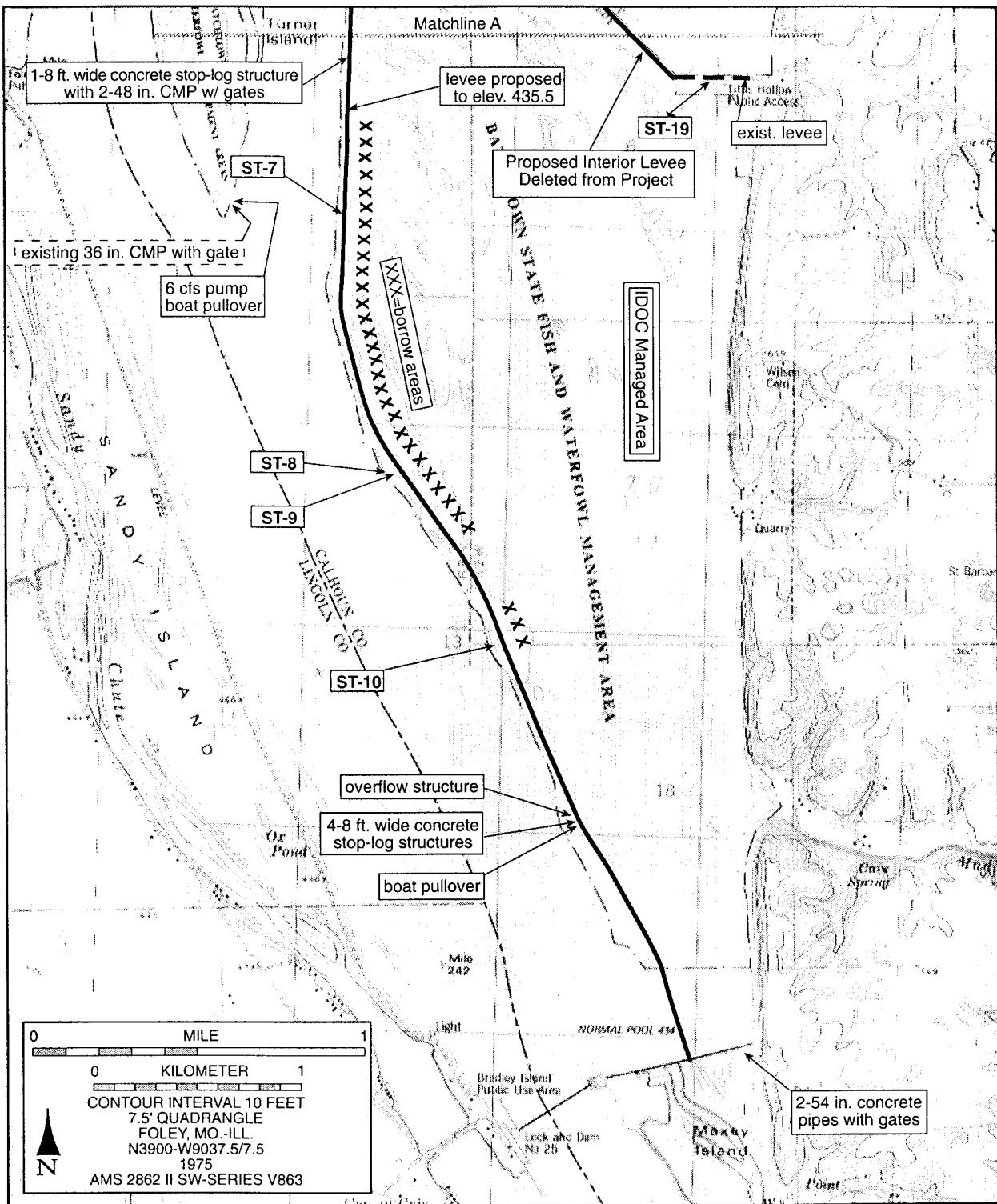


Figure 9. Soil test (ST) locations ST-7 – ST-10 and ST-19 within the Batchtown HREP.

Table 4. Depth of PSA Identified at Soil Testing (ST) Locations and Trench 1, Batchtown Project Area.

Designation	PSA Depth (cm)	Locational Notes
ST-1	100	existing FWS riverside levee
ST-2	100	existing FWS riverside levee
ST-3	90	existing FWS riverside levee
ST-4	95	existing FWS riverside levee
ST-5	> 120	existing FWS riverside levee
ST-6	> 120	proposed IDOC riverside levee
ST-7	> 120	proposed IDOC riverside levee
ST-8	> 140	proposed IDOC riverside levee; 40 m east of shore
ST-9	> 140	proposed IDOC riverside levee; 70 m east of shore
ST-10	> 120	proposed IDOC riverside levee
ST-11	40	existing FWS riverside levee
ST-12	42	existing FWS riverside levee; location of historic site ARG-1H
ST-13	40	existing FWS riverside levee; immediately south of boat ramp parking lot
Trench 1	40	existing FWS riverside levee; immediately south of boat ramp parking lot
ST-14	45	existing FWS interior levee; cultivated field immediately east of boat ramp parking lot, and immediately south of Turner Hollow road (refuge road)

Table 4. (Contd.)

ST Number	PSA Depth (cm)	Locational Notes
ST-15	25	existing FWS interior levee; immediately north of Turner Hollow road; location of prehistoric/historic site ARG-6P/H
ST-16	20	existing FWS interior levee
ST-17	20	existing FWS interior levee
ST-18	15	proposed IDOC interior levee; cultivated field east of prehistoric site ARG-4P
ST-19	20	near the juncture of existing IDOC interior levee and proposed IDOC interior levee; Titus Hollow Public Access area;
ST-20	0	east end of existing FWS interior levee; cultivated field north of Turner Hollow road; west of bluff

appear to be of late Holocene to historic in age. The results of the geomorphological investigations are summarized below. Detailed descriptions of the soils observed in each of the sampling tube cores and the backhoe trench are presented in Appendix B.

The Early to Mid Holocene Surface

The early to mid Holocene surface was identified in cores advanced at soil test locations ST-11 - ST-19 (Figures 8 and 9). This portion of the project area encompasses the full length of the existing and the proposed interior levees, the southern end (.6 mile) of the existing riverside levee, and the northern end (.2 mile) of the proposed riverside levee. The 1975 Foley, Mo.-Ill., 7.5' USGS topographic map shows a landscape assemblage for this portion of the project area that is distinctly different from the landscape assemblage present elsewhere in the Batchtown HREP. The topography in this portion of the project area is characterized by east-west oriented ridges and swales that run perpendicular to the current Mississippi River channel. This suggests that this

landscape evolved during a period when the orientation of the Mississippi River channel was much different than it is today, the ridges of lateral accretion apparently developing at a time when the river ran perpendicular to the valley wall rather than parallel to it.

The soils observed in the soil cores and the backhoe trench placed in the central portion of the project area provide evidence that this landscape is of considerable Holocene age. Argillic (clay enrichment) B horizons are seen in the soil profiles which indicate considerable Holocene age. The soil profile observed at ST-18 not only has a well-developed argillic B horizon, but, below a depth of 70 cm, the profile coarsens to medium sand with red silts in the parent material matrix. The red silts are apparently derived from glacial lake discharges out of the Superior basin from around 9500 to 9700 BP (Flock 1983). The basal deposits place the maximum age of the surface at the least to the early Holocene (Anderson 1987; Benn et al. 1989; Bettis and Hallberg 1985).

Judging from the development of argillic (Bt) horizons, finer grained deposits capping the surface probably accumulated during the early and mid Holocene, stabilizing several thousand years ago. Soil field pH also indicates surface stability for a significant period of time, showing decreasing pH through the profile into the Bt horizon. The native surface horizon pH was generally around 7.0 to 7.5, and decreased to about 5.5 to 6.0 in the Bt horizon below.

Historical alluvium (PSA) caps most of the early to mid Holocene surfaces. The depth of the PSA ranges from 0 cm to 45 cm (Table 4). The thickest PSA deposits occur along the western portion of the project area, at ST-11 - ST-16 and Trench 1 (Figure 8). Lesser amounts of PSA occur to the east, at ST-17, -18, and -19.

The Late Holocene to Historic Surface

The Late Holocene to historic surface was identified in cores advanced at soil test locations ST-1 - ST-10 and ST-20. These portions of the project area encompass the north end (1.5 miles) of the existing riverside levee, the southern end (2.2 miles) of the proposed riverside levee, and the extreme eastern end of the existing interior levee. With the exception of ST-20, all cores were advanced along the northwestern and southwestern portion of the project area. Water tables are near the surface in these portions of the project area, and most of the soil profiles show thick historical alluvium burying very poorly drained, gleyed wetland soils (Table 4).

Cores advanced at ST-3 and ST-4, in the northwestern part of the project area, show buried, late Holocene A horizons below 90 cm of PSA. A Bw horizon was identified below the buried A at ST-3, indicating the deposit was the late Holocene soil before being buried by about 1 m of PSA. Each of the other cores advanced in the northwestern portion of the project area (ST-1, ST-2, and ST-5) show PSA to a depth greater than 1 m; no presettlement soils were recognized at these soil test locations.

Soil cores ST-6 - ST-10 were advanced along the southwestern portion of the project area. The cores were advanced to a depth of 120-140 cm. All of the cores showed PSA through the entire profile. The PSA laminae ranged from medium sand to silty clay loam. The laminae were thick bedded, and most of the laminae units were calcareous.

The late Holocene to historic surface was also identified at ST-20, along the valley wall at the extreme eastern end of the project area. The soil profile observed at ST-20 shows a weak, very late Holocene to historic aged soil developed in tributary fan deposits. The native surface A horizon has been removed through surface erosion, leaving a weak BC horizon at the surface. No buried surfaces were found in the profile, which extended to a depth of 180 cm.

Conclusion

The results of the present investigation indicate that the northwestern and southwestern portions of the project area are covered by a thick (> 90 cm) layer of historic alluvium. The native soils underlying these historic deposits are young, poorly-drained, late Holocene to historic floodplain surfaces. These native surfaces have very low potential for containing cultural deposits. A buried, late Holocene soil was identified in the northwestern part of the project area, at ST-3 and ST-4, but at a depth (1 m) well below the maximum depth of construction impact (30-60 cm).

The extreme eastern end of the project area lies on a very late Holocene to historic aged tributary fan. Surface erosion has removed the presettlement A horizon at the valley wall, exposing the underlying weak BC horizon. Buried surfaces were not identified in the profile of the soil core advanced in this area, suggesting that this portion of the valley was reworked by tributary erosion during the very late Holocene and possibly into the historic. If archaeological sites are present in this portion of the project area, they should be found at or near the surface.

A thin (0-45 cm) deposit of historic alluvium caps an early to mid Holocene terrace in the central portion of the project area. The native soils underlying these historic deposits appear to have been stable for a significant period of time, indicating that archaeological sites may occur within the construction impact zone (30-60 cm) in this portion of the project area.

The central portion of the project area also has some potential for containing buried cultural deposits. An organically enriched A horizon was identified at a depth of 90 cm in a core (ST-13) advanced at the construction location of the pump station to be built near the Turner Hollow Road boat ramp, although no cultural material was recovered in the 2-m-deep backhoe trench (Trench 1) excavated at this location. Buried soils are expected to occur at other locations across the early to mid Holocene surface, and it is possible some of these soils contain cultural materials.

The 1987 IDOC geomorphological investigation of the central portion of the Batchtown HREP was designed to assess the potential for buried cultural deposits being present below recent

alluvium (Van Nest 1989). On the basis of data obtained through soil coring, the study area was evaluated as having little potential for containing Archaic or earlier sites, although it was concluded that there would be a “slim possibility” for buried cultural deposits of late prehistoric age being present “if it can be shown that the active meandering of the Mississippi through the study area is not historic” (Van Nest 1989:318).

The results of the present study indicate that the landscape in the central portion of the Batchtown HREP is of considerable age, the basal deposits observed in soil cores advanced in this area suggesting it may date to the early Holocene. Moreover, the finer grained deposits capping the surface in this portion of the project area appear to have accumulated during the early and mid Holocene and to have stabilized several thousand years ago. In contrast to the results of the 1987 IDOC geomorphological investigation, the present study suggests that buried cultural deposits dating to the Archaic period may occur within the central portion of the Batchtown HREP.

CHAPTER VI. RESULTS OF ARCHAEOLOGICAL SURVEY

Introduction

Seven archaeological sites were recorded during the present survey, including 3 prehistoric sites, 3 historic sites, and 1 site containing both prehistoric and historic components (Figure 10). This chapter presents a description of each of these sites and an inventory of the artifacts recovered from them.

A modified version of the functional artifact typology used by American Resources Group, Ltd. for previous survey and testing projects (Moffat et al. 1989; Titus and Snyder 1992; Titus et al. 1993) has been used to organize the data presented in the prehistoric artifact inventory table. This functional typological system is similar to that used by McMillan (1971) and Ahler and McMillan (1976) to analyze the artifacts from Rogers Shelter. Originally developed by Winters (1969), this typological system facilitates inference of site function by grouping artifact classes into general behavioral categories.

Site Descriptions

11-C-205

Site Type: Historic farmstead

Component: Late nineteenth to early twentieth century

Site Location: NE1/4, SE1/4, NW1/4, NE1/4 of Sec. 36, T11S-R3W

Project Location: Western half inside the construction corridor of the existing riverside levee (FWS)

Approximate Site Area: 90 m NW-SE x 30 m NE-SW; 2,200 m²

Topographic Location: Floodplain ridge

Elevation: 438 ft AMSL

Soil Series: Wakeland silt loam

Nearest Water: Mississippi River, 10 m west

Survey Method: Screened shovel testing along transects spaced 10 m apart.

Site Condition: The site has been disturbed to a depth of approximately 22 cm by modern cultivation.

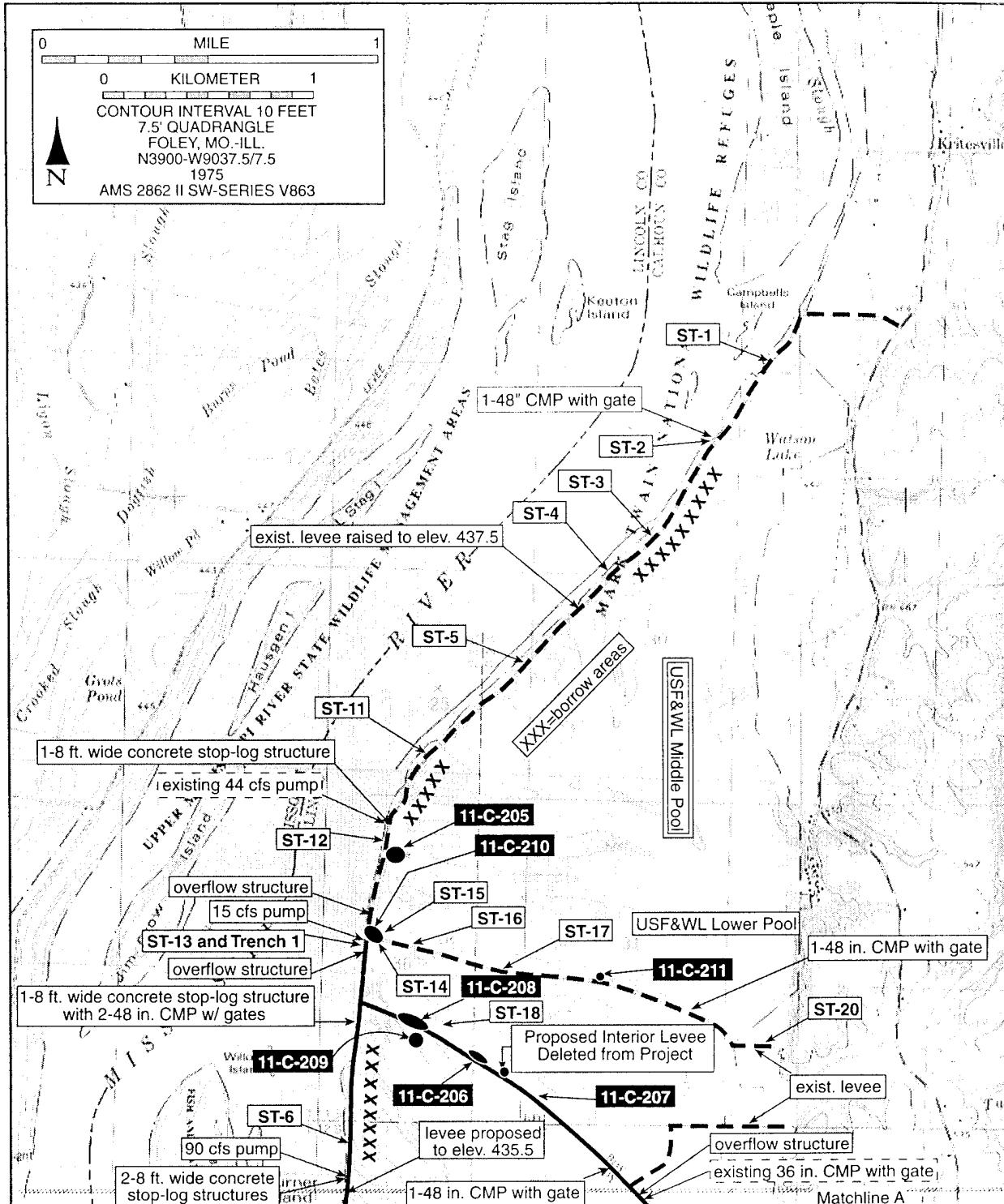


Figure 10. Topographic location of sites 11-C-205 – 211, Batchtown HREP.

Description. Site 11-C-205 consists of a light to moderately dense scatter of historic artifacts. The site is situated at the western end of an east-west oriented floodplain ridge, approximately 10 m east of the current channel of the Mississippi River (Figure 10). The narrow, relatively level crest of the ridge is flanked on the north by a gentle slope and swale, and, on the south, by a moderately steep slope and water-filled swale. The site is located in the southwestern corner of a weed-covered, FWS Moist Soil Unit (Figure 11). A FWS patrol road that leads north from the Turner Hollow Road boat ramp passes through a metal gate located approximately 15 m southwest of the site. Beyond the gate, the patrol road continues north atop a low-lying, earthen levee that bounds the western edge of the Moist Soil Unit, passing between the site and an earthen loading ramp. The western end of the historic artifact scatter is located inside the construction corridor of the existing riverside levee (FWS), but most of the site lies outside the project area (Figure 11).

Site 11-C-205 was located and defined entirely through screened shovel testing. A total of 19 shovel tests was dug in the site area, and 13 of these contained artifacts (Figure 11). Most of the positive tests yielded small brick fragments and cinders, several contained pieces of limestone and/or mortar, and seven of the tests contained ceramic, glass, and/or metal artifacts as well. No standing structures are present at the site, and no foundations, cisterns, or wells were observed during the investigation.

The earthen loading ramp was constructed by FWS in 1966. The north-south oriented ramp is approximately 17 m long, 9 m wide at the base, and 3 m wide on top (Figure 11). The ramp rises from ground level at its north end to a height of approximately 1.75 m at its south end. A plank-and-post retaining wall is located at the south end of the earthen ramp, and its east and west sides have been riprapped.

Soils observed in a shovel test excavated at site 11-C-205 consisted of approximately 40 cm of black 10YR 2/1 silt loam over a very dark grayish brown 10YR 3/2 silty clay loam. A distinct plow zone was not observed in the tests excavated at the site.

Artifacts. A total of 11 historic artifacts was collected from shovel tests dug at the site (Table 5). Numerous small brick fragments and cinders, and several pieces of limestone and mortar, were observed in shovel tests, but were not collected. The functional categories represented in the collection are kitchen and architecture. Kitchen-related ceramic artifacts include plain whiteware (1830+). Kitchen-related glass artifacts include aqua and clear unidentified glass container body fragments. Architecturally-related artifacts include a wire nail (1880+), a large bolt, brick fragments, mortar, and limestone. The temporally diagnostic artifacts recovered at site 11-C-205 provide a mean ceramic date of 1902 and an overall mid date of 1915 (Table 5), suggesting the midpoint of site occupation dates to the early twentieth century.

Interpretation. Site 11-C-205 appears to represent the remains of a late nineteenth- to early twentieth-century farmstead complex. The site is located on an 80-acre-parcel that was originally

Site 11-C-205

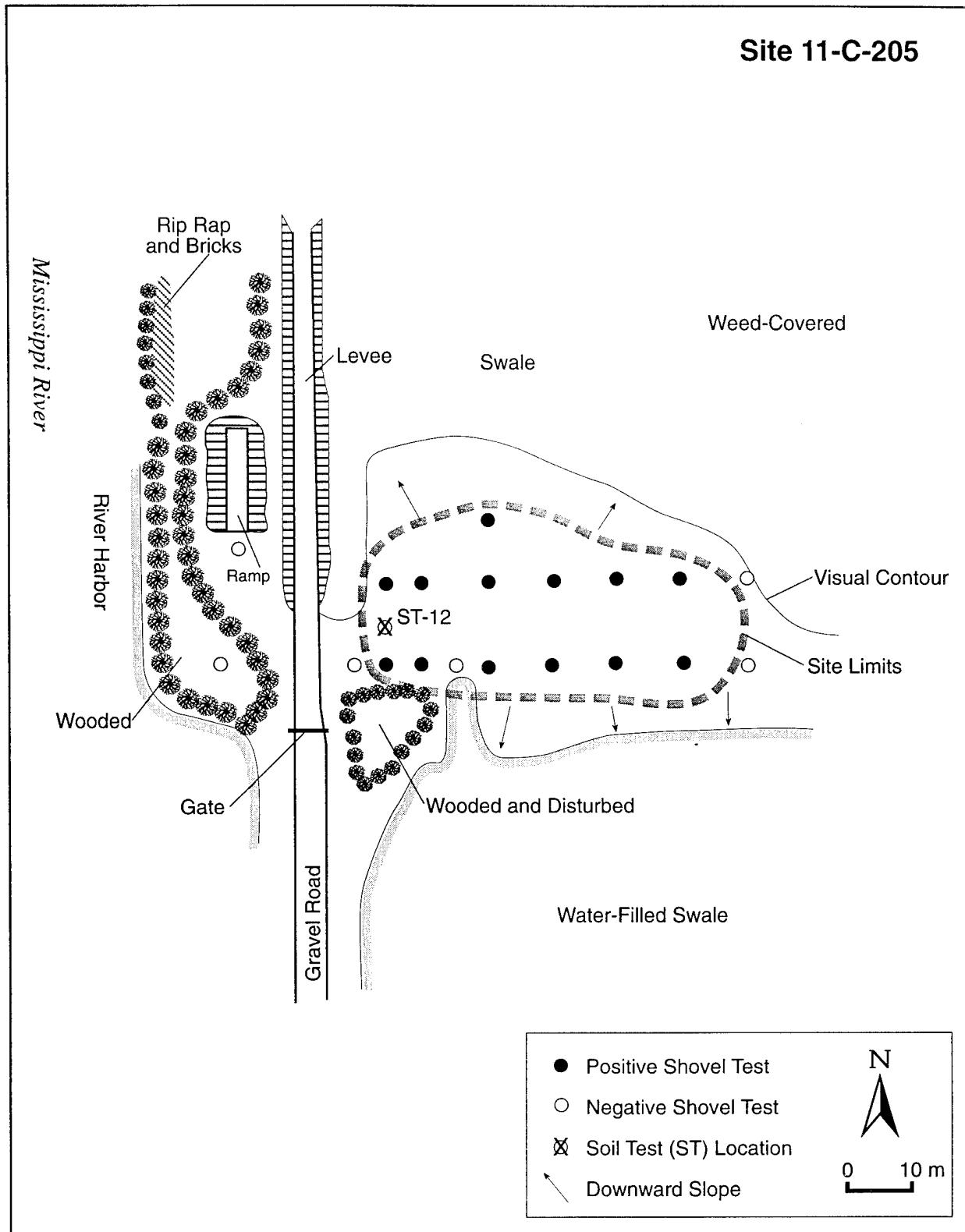


Figure 11. Site plan, 11-C-205.

Table 5. Historic artifact inventory by site, Batchtown HREP.

Artifact Type	11-C-205	11-C-207	11-C-210	11-C-211	Total
Kitchen					
Ceramic					
Whiteware					
Transfer Print					
Black/Unid HW (1830-1850)		1			1
Brown Annular Plate Fragment (1830-1860)			1		1
Plain (1830+)					
Cup Base Fragment	1				1
Unid Vsl	1	6	1		8
Whiteware Total	2	7	2		11
Ironstone					
Plain/Unid Vsl (1840+)		1	1		2
English Registry Mark (1856)			1		1
Ironstone Total		1	2		3
Redware					
Unid Vsl (1895-1930)			1		1
Redware Total			1		1
Stoneware					
Unid Vsl					
Clay Slip Exterior/Clay Slip Interior (1875-1900)		2			2
Salt Exterior/Slip Interior (1840-1900)		1	1		2
Bristol Exterior/Bristol Interior (1880+)			1		1
Stoneware Total		3	2		5
Ceramic Total	2	11	7		20
Glass					
Unid Bottle/Neck					
Improved Tool Cork (Aqua) (1870-1915)			1		1
Manganese (1880-1920)		1			1
Unid Vsl/Body					
Aqua	1		1		2
Clear	3	1			4
Amber			1		1
Opaque White		2			2
Glass Total	4	4	3		11
Kitchen Total	6	15	10		31
Personal					
Clay Marble			1		1
4-Hole Glass Button/Opaque White		1			1
Personal Total		1	1		2
Architecture					
Metal					
Wire Nail Fragment (1880+)	1				1
Large Bolt	1				1
Unid Door Part		1			1
Cast Iron Stove Part				1	1
Metal Total	2	1		1	4
Glass					
Clear Flat		4			4
Glass Total		4			4
Ceramic					
Brick	2	2	*		4
Ceramic Total	2	2			4
Mortar		1			1
Mortar Total		1			1
Stone					
Limestone	*	*	*	*	*
Architecture Total	5	7		1	13
Overall Total	11	23	11	1	44
Mean Ceramic Date	1902.5	1877.5	1891.5	-	
Overall Mid Date	1915	1877.5	1891.5	-	

* Noted, but not collected.

purchased by Levi Turner in July 1839 (Table 1), but the temporally diagnostic artifacts from the site suggest it may have been initially occupied at a substantially later date. No structures are shown at the location of site 11-C-205 on the 1891 Corps of Engineers river channel map (Chart No. 122), but Turner Landing is indicated at a location approximately .2 mile north of the site. The 1891 Corps map also shows the road connecting Turner Hollow Road with Turner Landing crossing the location of site 11-C-205, and depicts the area surrounding the site as having been cleared of timber. The 1931 Corps of Engineers river channel map shows four structures at the location of the site, as well as Turner Landing and both of the roads shown on the 1891 map. The 1934 Hardin 15' USGS topographic map depicts one structure at the location of the site, and a structure at Turner Landing. No structures are shown at the location of site 11-C-205 on the 1975 Foley, MO.-ILL., 7.5' USGS topographic map, indicating the last standing structure at the site was removed sometime between 1934 and 1975.

11-C-206

Site Type: Prehistoric limited activity site

Component: Nondiagnostic

Site Location: NW1/4, NW1/4, SW1/4, SW1/4 of Sec. 31, and NE1/4, SE1/4, NE1/4, SE1/4, SE1/4 of Sec. 36, T11S-R2W

Project Location: Inside the construction corridor of the proposed interior levee (FWS)

Approximate Site Area: 125 m NW-SE x 20 m NE-SW; 2,600 m²

Topographic Location: Floodplain ridge

Elevation: 438 ft AMSL

Soil Series: Wakeland silt loam

Nearest Water: Mississippi River, .6 km west

Survey Method: Surface survey along transects spaced 10 m apart. Ground surface visibility in the cornfield was approximately 95%.

Site Condition: The site has been disturbed to a depth of 22 cm by modern cultivation.

Description. Site 11-C-206 is a small, light prehistoric lithic scatter situated on a southeasterly trending floodplain ridge, approximately .6 km east of the current channel of the Mississippi River (Figure 10). The narrow, relatively level crest of the ridge is flanked on the north and south by water-filled swales. The site is located in a cultivated field that was planted in 2-inch-high corn at the time of survey (Figure 12).

Site 11-C-206 was located and defined entirely through surface survey. All artifacts were point plotted, and a total collection of artifacts was made. Soils observed in a shovel test excavated at the site consisted of a 22-cm-thick plow zone of very dark gray 10YR 3/1 silt loam over a medium brown 10YR 4/3 slightly clayey silt.

Artifacts. Five prehistoric artifacts were recovered at site 11-C-206 (Table 6). The collection includes 4 debitage flakes and 1 amorphous core (Figure 13A). One unmodified cobble was also noted, but was not collected. Four of the five chipped-stone items in the site collection

Site 11-C-206

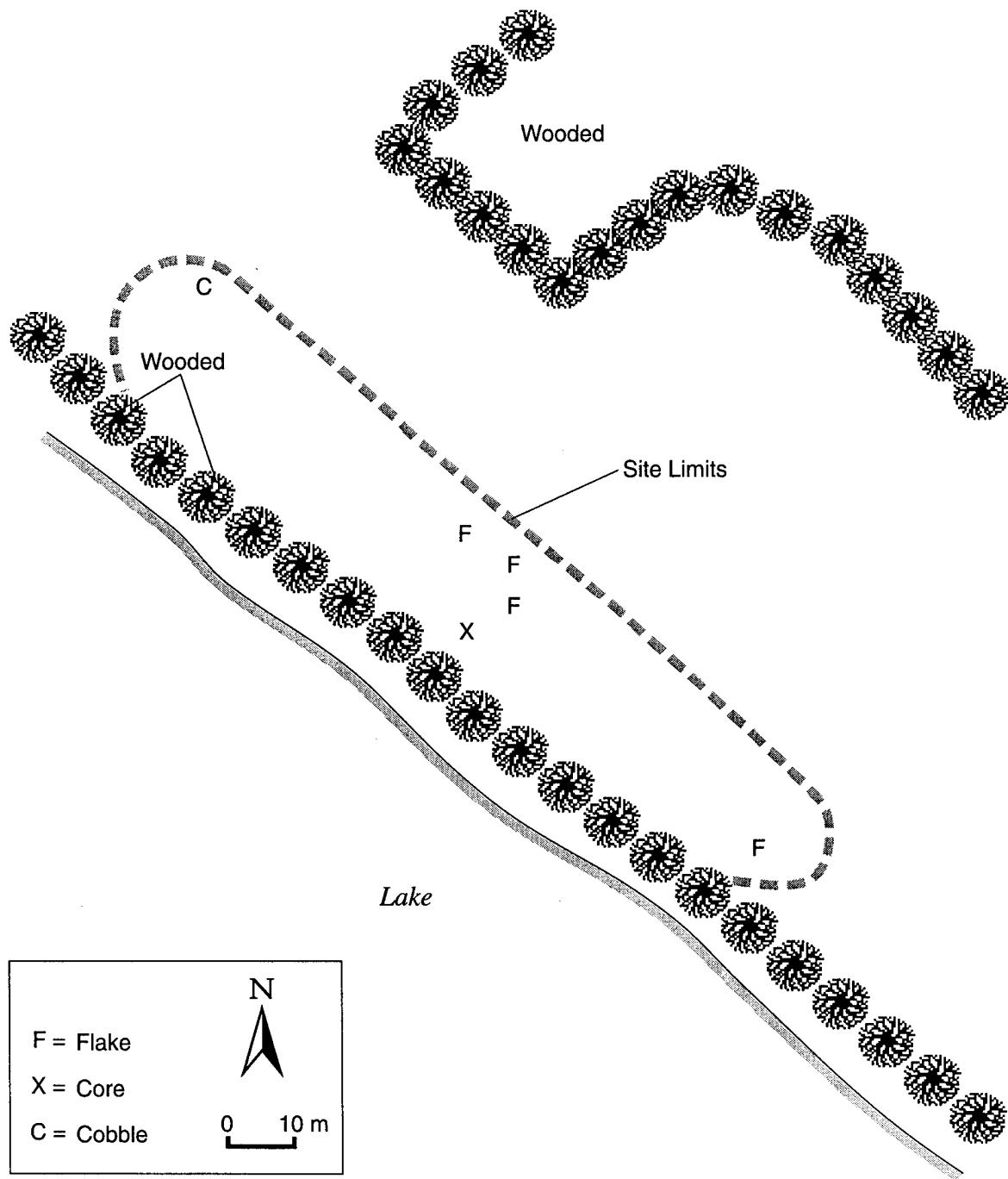


Figure 12. Site plan, 11-C-206.

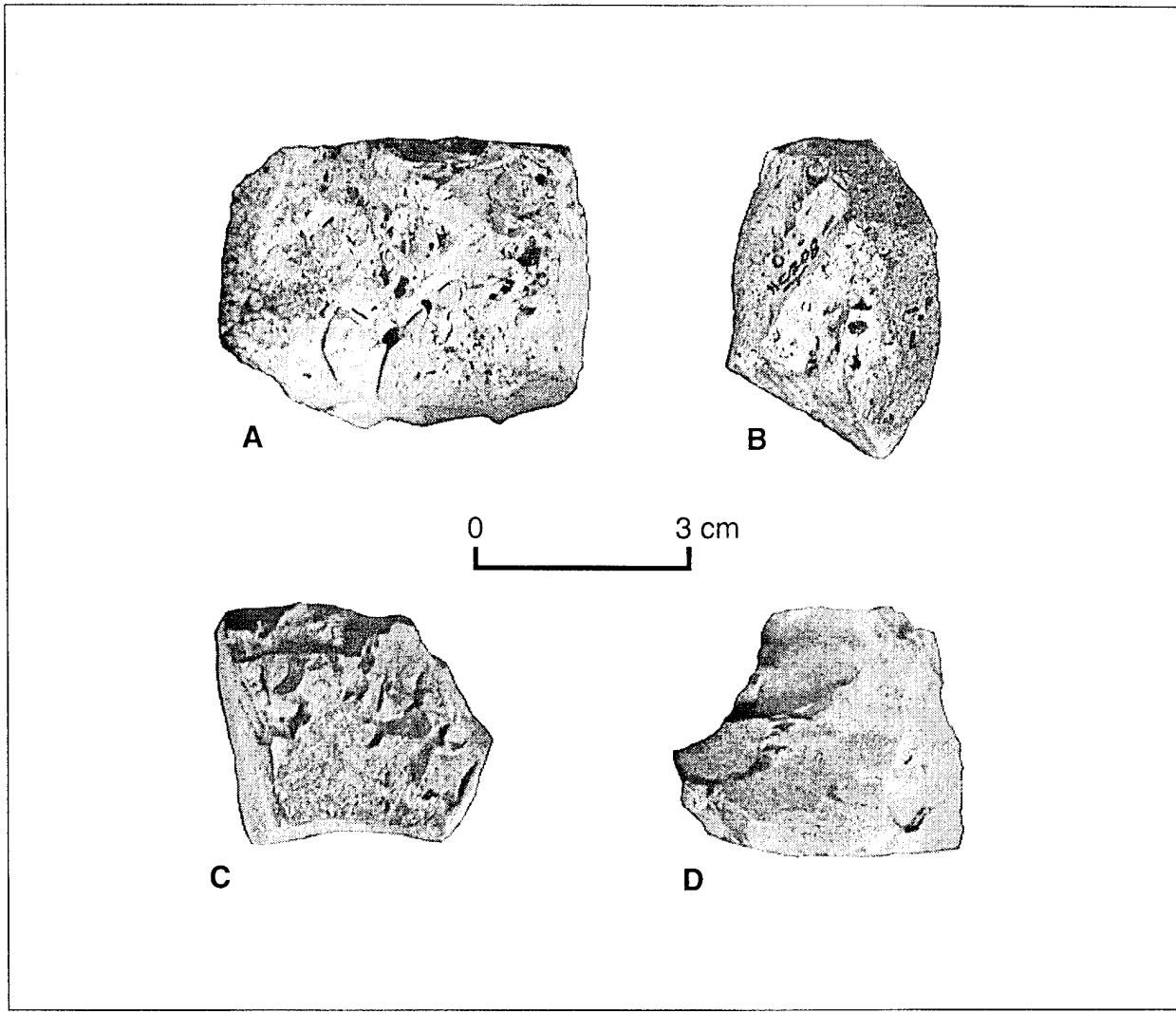


Figure 13. Selected amorphous cores, sites 11-C-206, 11-C-208, and 11-C-209.

- A. Amorphous core, Burlington chert, site 11-C-206.
- B. Amorphous core, Burlington chert, site 11-C-208.
- C. Amorphous core, Burlington chert, site 11-C-208.
- D. Amorphous core, Burlington chert, site 11-C-209.

Table 6. Prehistoric artifact inventory by site, Batchtown HREP.

Artifact Categories	11-C-206	11-C-208	11-C-209	11-C-210	Total
Hunting & General Utility Tools					
Proj. Pts/Hafted Knives			2		2
Unspecified Bifaces		1			1
Informal Flake Tools		3			3
Formal Flake Tools		1			1
Stone Tool Production & Maintenance Debris					
Cores					
Amorphous	1	2	1		4
Blanks		1			1
Debitage					
Primary Decort. Flakes	1				1
Secondary Decort. Flakes		3	1		4
Tertiary Flakes			1	2	3
Biface-1 Flakes			6		6
Biface-2 Flakes		16	9		25
Broken Flakes	3	9	12	1	25
Angular Fragments		5	1		6
Heating & Cooking Debris					
Unmodified Cobbles	1	3	2		6
Total Count by Provenience	6	44	35	3	88

Table 7. Chert type identification by debitage category, site 11-C-206, Batchtown HREP.

Chert Type Count & Weight	Burlington		St.L.Com		Total	
	#	Wt.	#	Wt.	#	Wt.
Stone Tool Production & Maintenance Debris						
Cores						
Amorphous	1	61.2			1	61.2
Debitage						
Primary Decort. Flakes			1	5.4	1	5.4
Broken Flakes	3	1.8			3	1.8
Total by Count & Weight	4	63.0	1	5.4	5	68.4
Frequency	80.00%	92.11%	20.00%	7.89%	100.00%	100.00%
Overall Total	4	63.0	1	5.4	5	68.4
Overall Frequency	80.00%	92.11%	20.00%	7.89%	100.00%	100.00%
Key: # = Count; Wt. = Weight in Grams						

are of Burlington chert, and one is of St. Louis Common chert (Table 7). The site assemblage suggests that lithic reduction is an activity that occurred at the site.

Interpretation. Site size is small, and artifact density and diversity are low, suggesting that 11-C-206 functioned as a limited activity site. The age and cultural affiliation of the site are unknown.

11-C-207

Site Type: Historic farmstead

Component: Mid nineteenth to early twentieth century

Site Location: SE1/4, NW1/4, SW1/4, SW1/4 of Sec. 31, T11S-R2W

Project Location: Inside the construction corridor of the proposed interior levee (FWS)

Approximate Site Area: 30 m N-S x 30 m E-W; 650 m²

Topographic Location: Floodplain ridge

Elevation: 438 ft AMSL

Soil Series: Wakeland silt loam

Nearest Water: Mississippi River, .8 km west

Survey Method: Surface survey along transects spaced 10 m apart. Ground surface visibility in the cornfield was approximately 95%.

Site Condition: The site has been disturbed to a depth of 23 cm by modern cultivation.

Description. Site 11-C-207 consists of a light scatter of historic artifacts situated on a southeasterly trending floodplain ridge, approximately .8 km east of the current channel of the Mississippi River (Figure 10). The narrow, relatively level crest of the ridge is flanked on the north and south by water-filled swales. The site is located near the eastern end of a cultivated field that was planted in 2-inch-high corn at the time of survey (Figure 14).

Site 11-C-207 was located and defined entirely through surface survey. All temporally sensitive historic artifacts observed in the cultivated field, and a representative sample of each of the artifact types identified, were collected. Soils observed in a shovel test excavated at the site consisted of a 23-cm-thick plow zone of medium brown 10YR 4/3 slightly clayey silt over dark yellowish brown 10YR 4/4 clayey silt.

Artifacts. A total of 21 historic artifacts was recovered at site 11-C-207 (Table 5). Two brick fragments and several medium-sized pieces of limestone were observed at the site, but were not collected. The functional categories represented in the collection are kitchen, personal, and architecture. Kitchen-related ceramic artifacts include black transfer print hollowware (1830-1850), undecorated whiteware (1830+), undecorated ironstone (1840+), and clay slip exterior/clay slip interior (1875-1900) and salt exterior/slip interior (1840-1900) stoneware. Kitchen-related glass artifacts include manganese bottle neck (1880-1920), clear and opaque white glass container fragments. Personal-related artifacts include an opaque white 4-hole glass button. Architecturally-related artifacts include an unidentified metal door part, clear window glass, brick fragments, and limestone.

Site 11-C-207

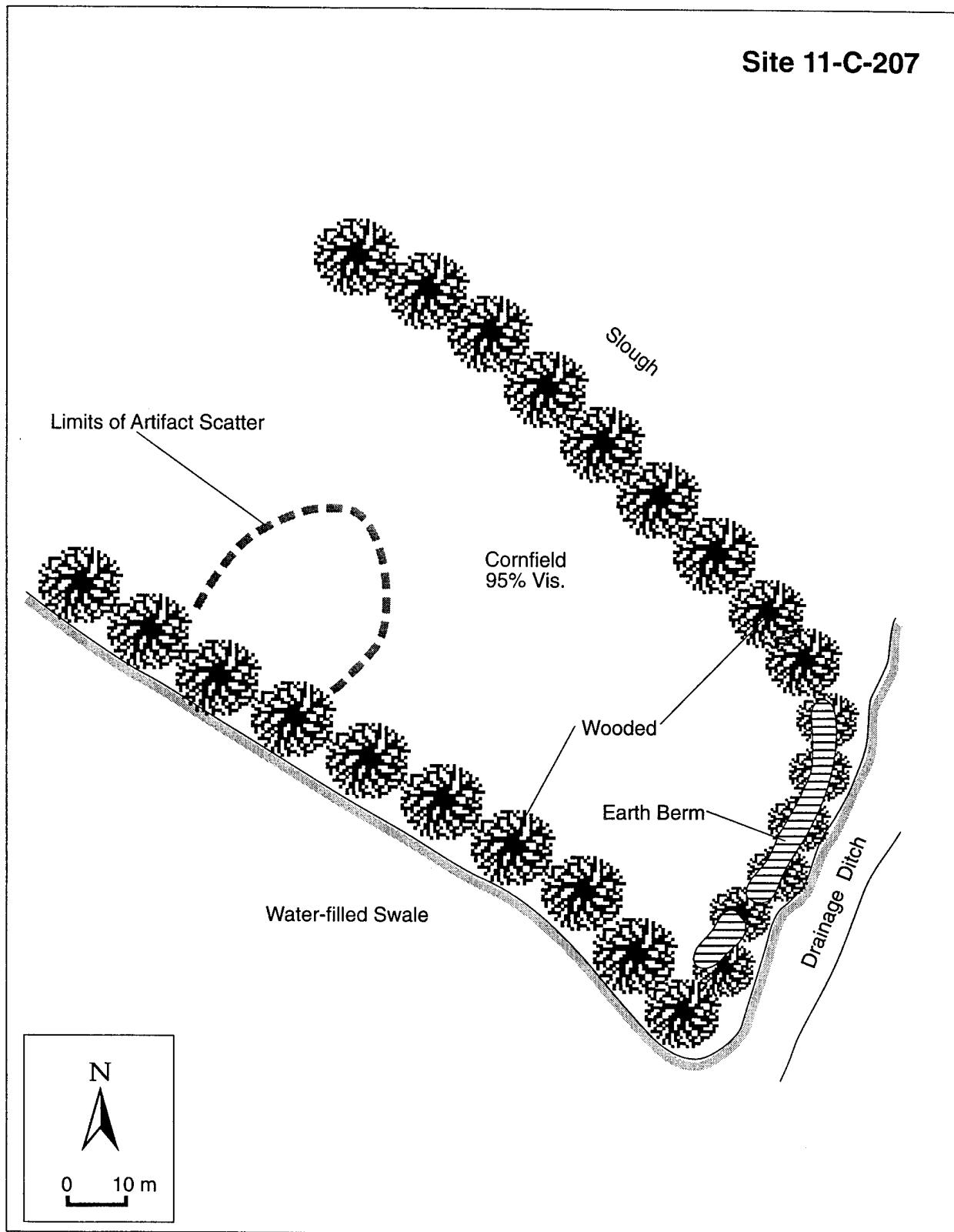


Figure 14. Site plan, 11-C-207.

Interpretation. Site 11-C-207 appears to represent a mid-nineteenth- to early twentieth-century farmstead. The site is located on a 160-acre-parcel that was originally purchased by James Severence in October of 1817 (Table 1), but the temporally diagnostic artifacts from the site suggest it was initially occupied at a substantially later date. A mean ceramic date of 1877 and an overall mid date of 1877 (Table 5), suggest the midpoint of site occupation dates to the late nineteenth century. The 1891 and 1931 Corps of Engineers river channel maps and the 1934 Hardin 15' USGS topographic map show a road running the length of the ridge on which site 11-C-207 is located, but none of the maps depict structures at the site location.

11-C-208

Site Type: Prehistoric habitation, field camp

Component: Nondiagnostic

Site Location: SW1/4, NE1/4, SE1/4 of Sec. 36, T11S-R3W

Project Location: Construction corridor of the proposed interior levee (FWS) crosses central portion of the site

Approximate Site Area: 140 m NW-SE x 80 m NE-SW; 8,000 m²

Topographic Location: Floodplain ridge

Elevation: 437 ft AMSL

Soil Series: Tice silt loam

Nearest Water: Mississippi River, 200 m west

Survey Method: Surface survey along transects spaced 10 m apart. Ground surface visibility in the cornfield was 75-100%.

Site Condition: The site has been disturbed to a depth of at least 17 cm by modern cultivation.

Description. Site 11-C-208 is a large, moderately dense prehistoric lithic scatter situated on a southeasterly trending floodplain ridge, approximately 200 m east of the current channel of the Mississippi River (Figure 10). The broad crest of the ridge is flanked on the southwest by a narrow, water-filled swale. The site is located along the western edge of a large cultivated field that was planted in 2-inch-high corn at the time of survey (Figure 15). The site was located and defined entirely through surface survey. All artifacts were point plotted, and a total collection of chipped-stone artifacts was made. Soils observed in a shovel test excavated in the cultivated field at site 11-C-208 consisted of a 17-cm-thick plow zone of medium brown 10YR 4/3 slightly clayey silt over dark yellowish brown 10YR 4/4 clayey silt. Soils observed in a shovel test excavated in the woods bordering the western edge of the field consisted of approximately 25 cm of very dark gray 10YR 3/1 silt loam over a medium brown 10YR 4/3 slightly clayey silt.

Artifacts. A total of 41 artifacts was recovered at site 11-C-208, all from the site surface (Table 6). The collection includes 6 chipped-stone tools, 2 amorphous cores (Figure 13A and 13B), and 33debitage flakes. Three unmodified cobbles were also noted, but were not collected.

The tool assemblage from site 11-C-208 consists of 2 bifaces, 1 formal flake tool (Figure 16E), and 3 informal flake tools (Figure 16D). The bifaces include 1 early-stage biface blank

Sites 11-C-208 and 11-C-209

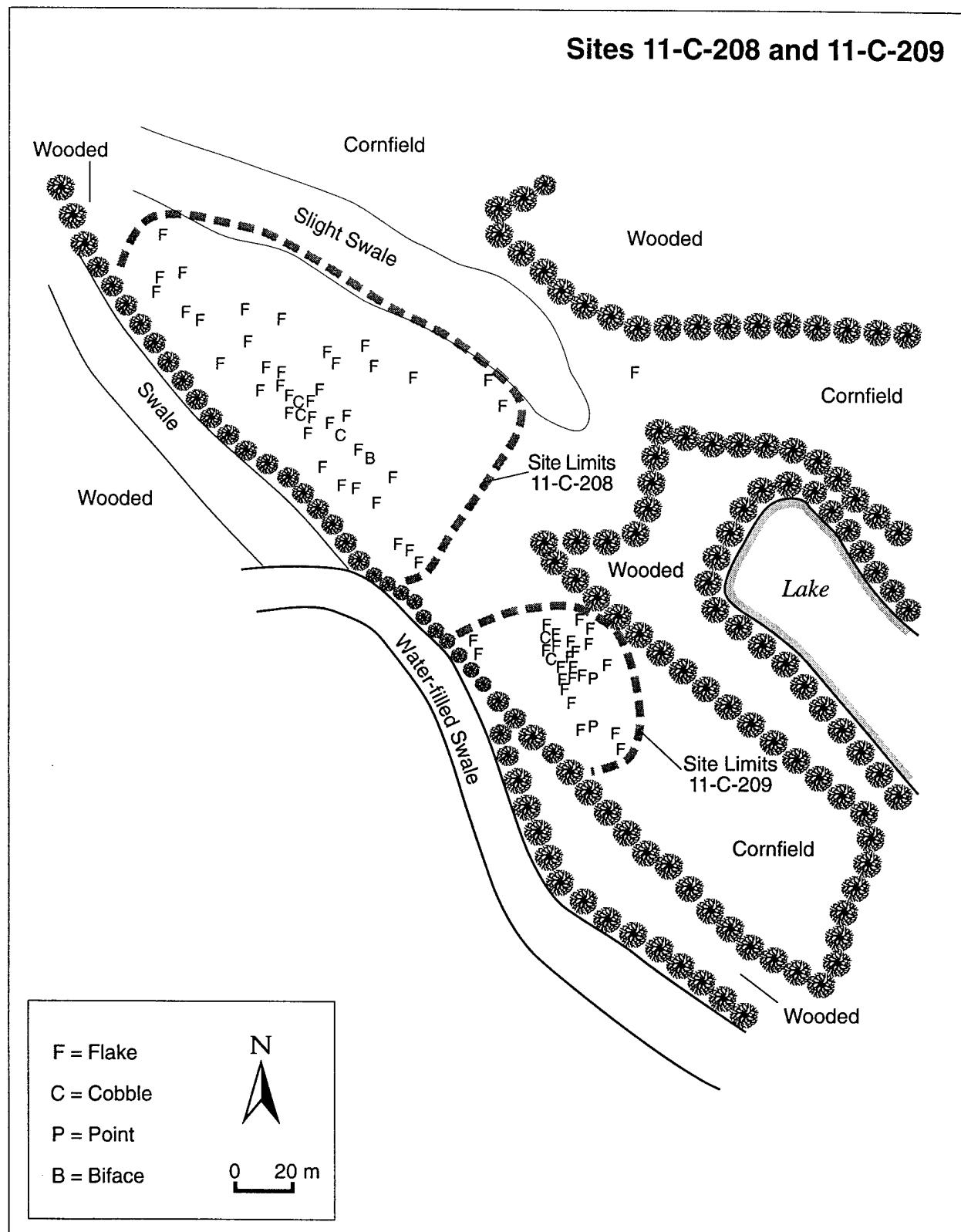


Figure 15. Site plan, 11-C-208 and 11-C-209.

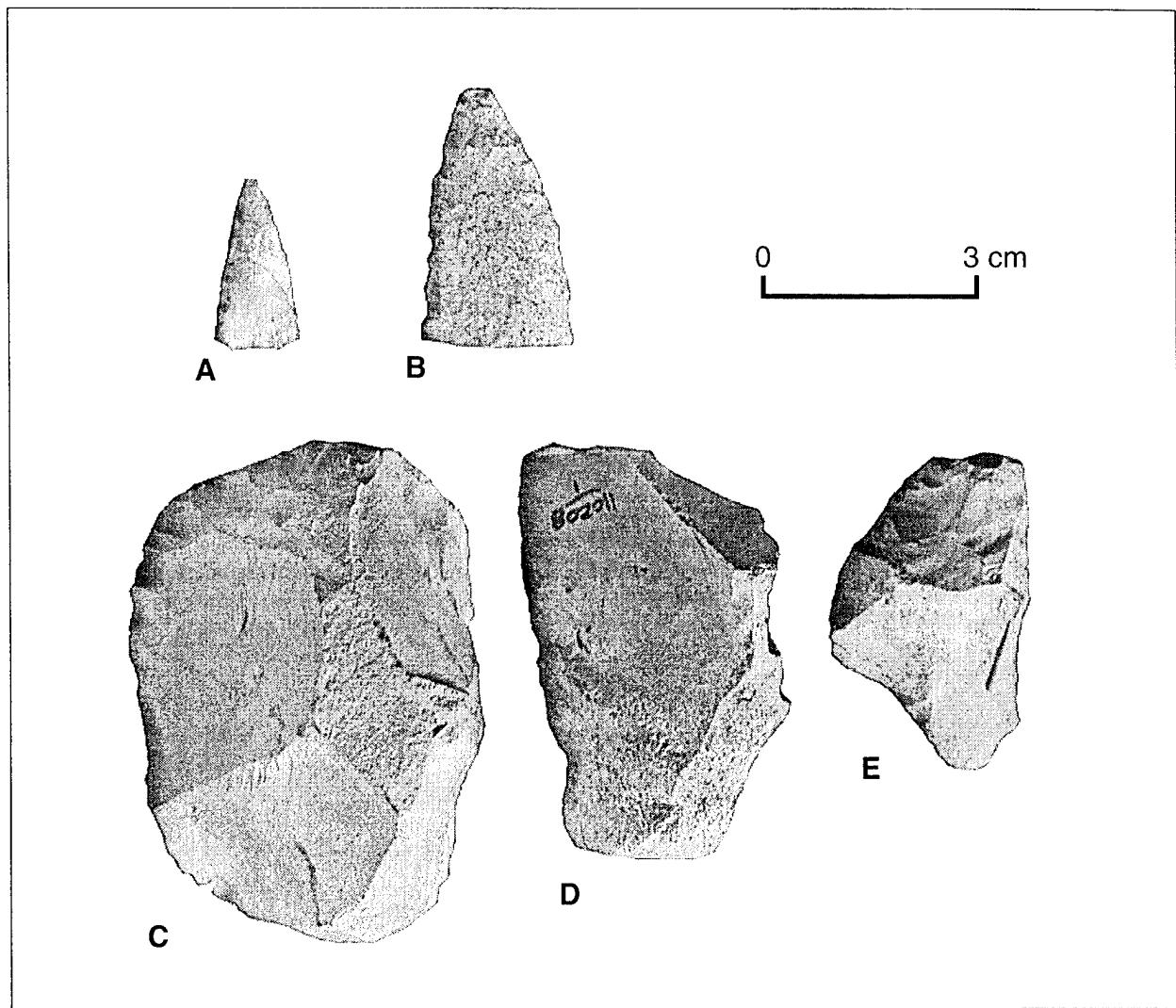


Figure 16. Selected chipped-stone tools, sites 11-C-208 and 11-C-209.

- A. Madison point, Late Woodland/Mississippian, Burlington chert, site 11-C-209.
- B. Indeterminate projectile point/knife fragment, indeterminate chert, site 11-C-209.
- C. Biface blank, indeterminate chert, site 11-C-208.
- D. Informal flake tool, Burlington chert, site 11-C-208.
- E. Formal flake tool, Burlington chert, site 11-C-208.

(Figure 16C) and 1 unspecified biface that is too fragmentary to permit more specific technological/functional identification. The formal flake tool and 1 of the 3 informal flake tools exhibit steep edge-retouch, suggesting they may have been used as scrapers.

Debitage is the most abundant artifact class represented in the site collection. Approximately 42% of the debitage consists of broken flakes and angular fragments. The overwhelming majority (84%) of the remainder of the flakes consist of biface-2 (resharpening) flakes (Table 6).

The artifact collection from site 11-C-208 contains evidence of both biface and amorphous core technology. The composition of the tool and core assemblages, and the relative frequencies of the debitage categories represented in the collection, suggest lithic reduction activities at the site emphasized by biface maintenance and repair and, secondarily, simple flake tool manufacture. Although early-stage biface reduction is represented, this activity appears to have been a relatively minor component of the tool production strategy employed at the site.

Table 8. Chert type identification by tool and debitage category, site 11-C-208, Batchtown HREP.

Chert Type Count & Weight	Burlington		Indeterminate		Total	
	#	Wt.	#	Wt.	#	Wt.
Hunting & General Utility Tools						
Unspecified Bifaces	1	3.6			1	3.6
Informal Flake Tools	3	69.6			3	69.6
Formal Flake Tools	1	3.6			1	3.6
Total by Count & Weight	5	76.8			5	76.8
Frequency	100.00%	100.00%			100.00%	100.00%
Stone Tool Production & Maintenance Debris						
Cores						
Amorphous	2	69.1			2	69.1
Blanks			1	86.9	1	86.9
Debitage						
Secondary D e c o r t . F l a k e s	2	9.0	1	2.5	3	11.5
Biface-2 Flakes	14	123	2	4.8	16	17.1
Broken Flakes	9	6.9			9	6.9
Angular Fragments	5	44.9			5	44.9
Total by Count & Weight	32	142.2	4	94.2	36	236.4
Frequency	88.88%	60.15%	11.11%	39.85%	100.00%	100.00%
Overall Total	37	219.0	4	94.2	41	313.2
Overall Frequency	90.24%	69.92%	9.76%	30.08%	100.00%	100.00%

Key: # = Count; Wt. = Weight in Grams

Burlington chert dominates the site 11-C-208 assemblage, representing, by count and weight, respectively, approximately 90% and 70% of the chipped-stone material from the site (Table 8). This chert type, however, accounts for a substantially smaller percentage of the assemblage by weight than by count, while the reverse is true of Indeterminate chert. This pattern suggests that the sources of the chert types relegated to the Indeterminate category may be located closer to the site than is the nearest source of Burlington chert. It is possible that the Indeterminate chert in the site collection is glacially redeposited chert that could not be duplicated in the comparative collection.

The site assemblage suggests that hunting and butchering, lithic reduction, and hide processing are activities that may have occurred at or near site 11-C-208. Although the evidence is meager, heating and/or cooking activities may also have occurred at the site.

Interpretation. Site size is large, and artifact density and diversity are moderately high suggesting that site 11-C-208 functioned as a field camp. The age and cultural affiliation of the site are unknown.

11-C-209

Site Type: Prehistoric habitation, field camp

Component: Late Woodland/Mississippian

Site Location: NW1/4, NE1/4, SE1/4, SE1/4 and NE1/4, NW1/4, SE1/4, SE1/4 of Sec. 36, T11S-R3W

Approximate Site Area: 70 m NW-SE x 40 m NE-SW; 2,000 m²

Project Location: Outside project area; south of construction corridor of the proposed interior levee (FWS)

Topographic Location: Floodplain ridge

Elevation: 437 ft AMSL

Soil Series: Wakeland silt loam

Nearest Water: Mississippi River, 340 m west

Survey Method: Surface survey along transects spaced 10 m apart. Ground surface visibility in the cornfield was 75-100%.

Site Condition: The site has been disturbed to a depth of at least 18 cm by modern cultivation.

Description. Site 11-C-209 is a small, moderately dense prehistoric lithic scatter situated on a southeasterly trending floodplain ridge, approximately 340 m east of the current channel of the Mississippi River (Figure 10). The crest of the ridge is flanked on the southwest and northeast by a narrow, water-filled swale. The site is located near the south end of a large cultivated field, approximately 30 m southeast of site 11-C-208 (Figure 15). The field was planted in 2-inch-high corn at the time of survey. The site was located and defined entirely through surface survey. All artifacts were point plotted, and a total collection of chipped-stone artifacts was made. Soils observed in a shovel test excavated in the cultivated field at site 11-C-209 consisted of an 18-cm-thick plow zone of medium brown 10YR 4/3 slightly clayey silt over dark yellowish brown 10YR 4/4 clayey silt. Soils observed in a shovel test excavated in the woods bordering the western edge of the field consisted of approximately 25 cm of very dark gray 10YR 3/1 silt loam over a medium brown 10YR 4/3 slightly clayey silt.

Artifacts. A total of 33 artifacts was recovered at site 11-C-209, all from the site surface (Table 6). The collection includes 2 chipped-stone tools, 1 amorphous core, and 30 debitage flakes. Two unmodified cobbles were also noted, but were not collected.

The tool assemblage from site 11-C-209 consists of two projectile point/knives. One of the two points recovered at the site is temporally diagnostic, and one is a nondiagnostic point fragment (Figure 16B). The temporally diagnostic point fragment is classified as a Madison point (Figure 16A).

The Madison point is diagnostic of the Late Woodland and Mississippian periods. Justice (1987) estimates the time range of these small, triangular arrowpoints from about A.D. 800 to the beginning of the Historic period.

Debitage is the most abundant artifact class represented in the site collection (Table 6). Approximately 43% of the debitage consists of broken flakes and angular fragments. The majority (53%) of the remainder of the flakes consist of biface-2 (resharpening) flakes, although biface-1 (thinning) flakes represent a substantial proportion (35%) of the classifiable debitage (Table 6).

The artifact collection from site 11-C-209 contains evidence of both biface and amorphous core technology. The composition of the tool and core assemblages, and the relative frequencies of the debitage categories represented in the collection, suggest lithic reduction activities at the site emphasized by biface maintenance and repair. Simple flake tool manufacture appears to have been a relatively minor component of the tool production strategy employed at the site.

The chert type frequency pattern evident in the chipped-stone collection from site 11-C-209 resembles the pattern identified at site 11-C-208. Burlington chert dominates the site 11-C-209 assemblage, representing, by count and weight, respectively, approximately 79% and 80% of the chipped-stone material from the site (Table 9). The remainder of the chipped stone is represented by Indeterminate chert.

The site assemblage suggests that hunting and butchering, lithic reduction, and possibly heating and/or cooking are activities that occurred at or near the site.

Interpretation. Although site size is small, artifact density and diversity are moderately high, suggesting that 11-C-209 functioned as a field camp. The site contains an occupation dating to the Late Woodland or Mississippian period.

11-C-210

Site Type: Prehistoric Component: limited activity site or field camp; Historic Component: farmstead

Component: Prehistoric Component: nondiagnostic; Historic Component: mid-nineteenth to early twentieth century

Site Location: NE1/4, SE1/4, SW1/4, NE1/4 of Sec. 36, T11S-R3W

Project Location: Inside the construction corridors of the existing riverside levee (FWS) and the existing interior levee (FWS)

Approximate Site Area: 65 m NW-SE x 35 m NE-SW; 1,500 m²

Topographic Location: Floodplain ridge

Table 9. Chert type identification by tool and debitage category, site 11-C-209, Batchtown HREP.

Chert Type Count & Weight	Burlington		Indeterminate		Total	
	#	Wt.	#	Wt.	#	Wt.
Hunting & General Utility Tools						
Proj. Pts/Hafted Knives	1	6.2	1	0.9	2	7.1
Total by Count & Weight	1	6.2	1	0.9	2	7.1
Frequency	50.00%	87.32%	50.00%	12.68%	100.00%	100.00%
Stone Tool Production & Maintenance Debris						
Cores						
<i>Amorphous</i>	1	24.3			1	24.3
Debitage						
<i>Secondary Decort. Flakes</i>			1	1.3	1	1.3
<i>Tertiary Flakes</i>			1	8.5	1	8.5
<i>Biface-1 Flakes</i>	6	11.3			6	11.3
<i>Biface-2 Flakes</i>	8	2.1	1	0.9	9	3.0
<i>Broken Flakes</i>	9	5.4	3	5.2	12	10.6
<i>Angular Fragments</i>	1	16.8			1	16.8
Total by Count & Weight	25	59.9	6	15.9	31	75.8
Frequency	80.65%	79.02%	19.35%	20.98%	100.00%	100.00%
Overall Total	26	66.1	7	16.8	33	82.9
Overall Frequency	78.78%	79.73%	21.21%	20.27%	100.00%	100.00%
Key: # = Count; Wt. = Weight in Grams						

Elevation: 438 ft AMSL

Soil Series: Tice silt loam

Nearest Water: Mississippi River, 30 m west

Survey Method: Screened shovel testing along transects spaced 10 m apart. Surface survey along transects spaced 10 m apart; ground surface visibility in the weed-covered field was approximately 25%.

Site Condition: The site has been disturbed to a depth of 22 cm by modern cultivation.

Description. Site 11-C-210 is situated at the western end of an east-west oriented floodplain ridge, approximately 30 m east of the current channel of the Mississippi River (Figure 10). The narrow crest of the ridge is flanked by a gentle to moderately steep slope and a broad swale on the north, and by a small swale on the south. The site is located in the southwest corner of an abandoned, weed-covered agricultural field, approximately 40 m northwest of the Turner Hollow Road boat ramp (Figure 17). The site is bound by Turner Hollow Road on the south, and, on the west, by a north-south oriented gravel road.

Site 11-C-210 contains both prehistoric and historic components. The historic component appears to represent the major occupation at the site. The historic component consists of a moderately dense scatter of historic artifacts. The site was located and defined through a combination of screened shovel testing and surface survey. A total of 15 shovel tests was dug in

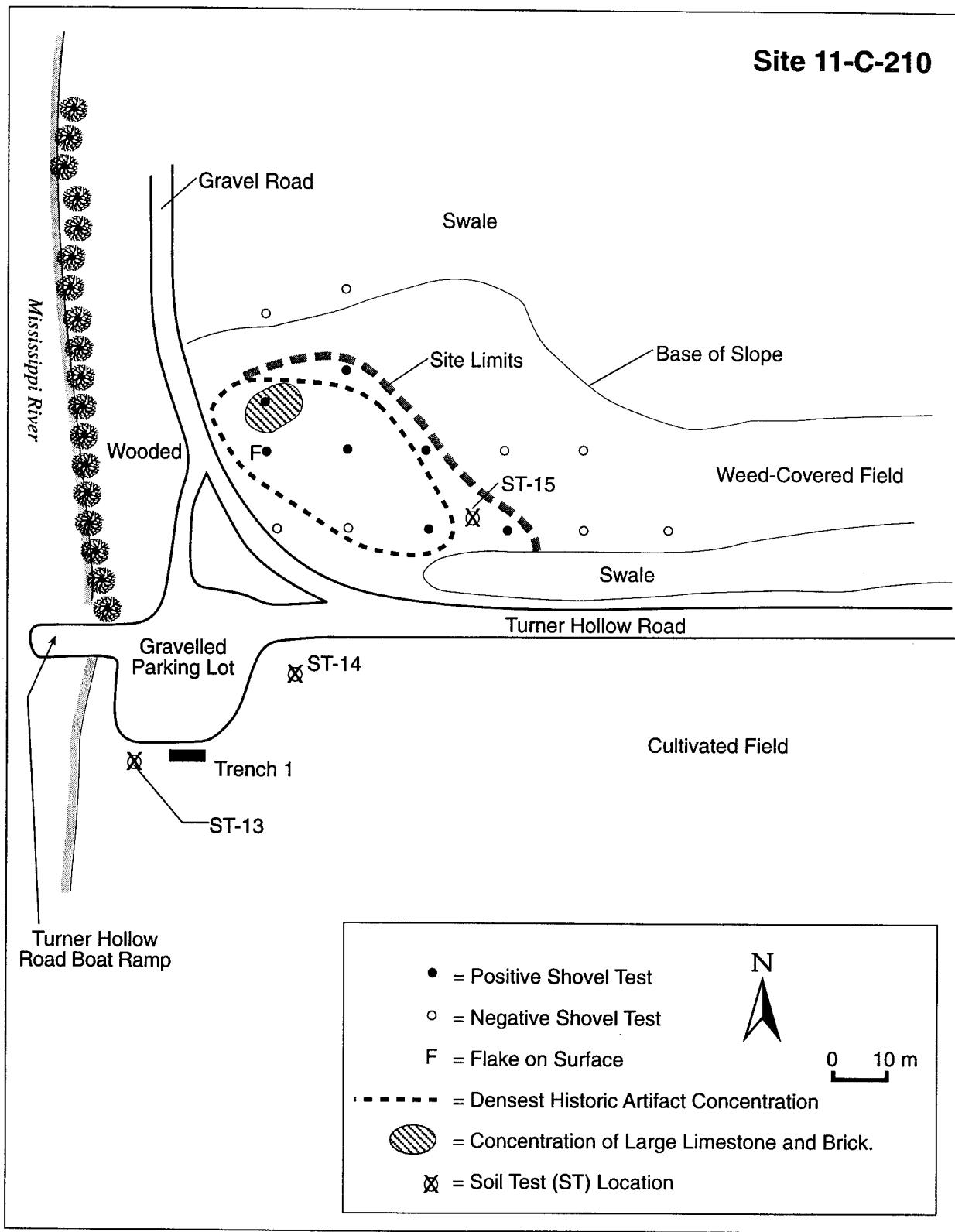


Figure 17. Site plan, 11-C-210.

the site area, and 7 of these contained artifacts (Figure 17). Most of the positive tests contained only small pieces of limestone and brick fragments, but one test also yielded a stoneware sherd. A moderately dense scatter of historic artifacts, including a concentration of large pieces of limestone, was observed on the site surface (Figure 17). All temporally sensitive historic artifacts observed during surface survey of the site, and a representative sample of each of the identified artifact types, were collected.

The prehistoric component at site 11-C-210 consists of a very light lithic scatter. Two flakes were recovered in a shovel test excavated at the site, and another flake was found on the surface 2 m west of the test containing the flakes (Figure 17). It is likely the prehistoric component at the site has been disturbed by activities associated with the historic occupation of the site.

Soils observed in shovel tests excavated at site 11-C-210 consisted of a 22-cm-thick plow zone of very dark brown 10YR 2/2 silt loam over a very dark gray 10YR 3/1 slightly clayey silt.

Artifacts. Eleven historic artifacts were recovered at site 11-C-210, eight from the surface and one from a shovel test (Table 5). Numerous pieces of large limestone and small brick fragments were identified, but were not collected. The functional categories represented in the collection are kitchen, personal, and architecture. Kitchen-related ceramic artifacts include brown annular (1830-1860) and undecorated (1830+) whiteware, undecorated ironstone (one with an English registry maker's mark dating to 1856), redware (1895-1930), salt exterior/slip interior stoneware (1840-1900), and Bristol exterior/interior stoneware (1880+) (Table 5). Kitchen-related glass artifacts include improved tool cork bottle closure (1870-1915) and aqua ($n=1$) bottle body. Personal-related artifacts include a clay marble. Architecturally-related artifacts include limestone and brick. The temporally diagnostic artifacts recovered at site 11-C-210 provide a mean ceramic date of 1891.5 and an overall mid date of 1891.5 (Table 5), suggesting the midpoint of historic period site occupation dates to the late nineteenth century.

Three prehistoric artifacts were recovered at site 11-C-210 (Table 6). The collection includes 2 tertiary flakes and 1 broken flake. Two of the flakes are of Burlington chert, and 1 is of St. Louis Common chert (Table 10).

The small size of the collection makes functional interpretation of the prehistoric component at site 11-C-210 difficult. The site may represent either a limited activity site or a field camp. The age and cultural affiliation of the site are unknown.

11-C-211

Site Type: Historic farmstead

Component: Late nineteenth to early twentieth century

Site Location: NW1/4, NE1/4, NE1/4, SW1/4 Sec.21, T11N-R2W

Project Location: Inside the construction corridor of the existing interior levee (FWS)

Approximate Site Area: 30 m N-S x 25 m E-W; 700 m²

Topographic Location: Floodplain ridge

Elevation: 438 ft AMSL

Soil Series: Beaucoup silty clay loam

Nearest Water: Mississippi River, 1.2 km west

Survey Method: Screened shovel testing along transects spaced 10 m apart. Visual inspection of area surrounding mound of rubble.

Site Condition: The site has been severely disturbed by bulldozing.

Description. Site 11-C-211 is situated on an east-west oriented floodplain ridge, approximately midway between the current channel of the Mississippi River and the bluffs lining the valley margin (Figure 10). The site is located in a wooded area immediately north of the Turner Hollow Road (Figure 18). Site 11-C-211 consists of two large limestone blocks, a cast iron stove part, and a large, 75-cm-high mound of dirt. The site was located and defined through visual inspection and shovel testing. Eight shovel tests were excavated in the site vicinity, but none of the tests yielded cultural material. Soils observed in a shovel test excavated at the site consisted of approximately 25 cm of very dark brown 10YR 2/2 silt loam over dark brown 10YR 3/2 clayey silt.

Table 10. Chert type identification by tool and debitage category, site 11-C-210, Batchtown HREP.

Chert Type Count & Weight	Burlington		St.L.Com.		Total	
	#	Wt.	#	Wt.	#	Wt.
Stone Tool Production & Maintenance Debris						
Debitage						
<i>Tertiary Flakes</i>	1	0.2	1	3.2	2	3.4
<i>Broken Flakes</i>	1	0.1			1	0.1
Total by Count & Weight	2	0.3	1	3.2	3	3.5
Frequency	66.66%	8.57%	33.33%	91.43%	100.00%	100.00%
Overall Total	2	0.3	1	3.2	3	3.5
Overall Frequency	66.66%	8.57%	33.33%	91.43%	100.00%	100.00%

Key: # = Count; Wt. = Weight in Grams

Artifacts. Two limestone blocks and a cast iron stove part were observed at site 11-C-211 during the present survey, but were not collected (Table 5).

Interpretation. Site 11-C-211 appears to represent the remains of a late nineteenth- to early twentieth-century farmstead. It appears the structures that once stood at this location have been razed and are now covered by the large mound of dirt observed at the site. Site 11-C-211 is

Site 11-C-211

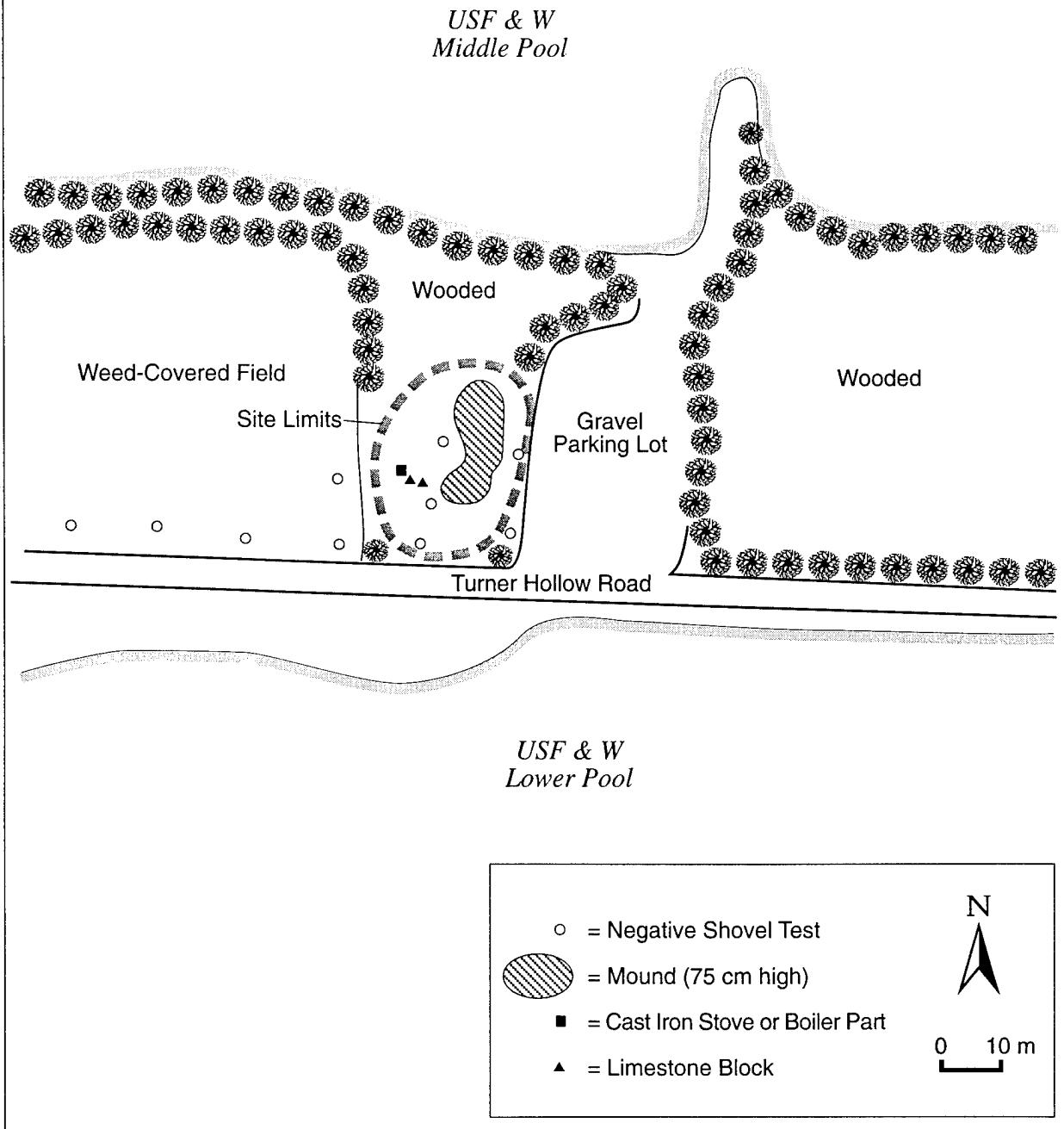


Figure 18. Site plan, 11-C-211.

located on a 160-acre-parcel that was originally purchased by James Severence in October 1817 (Table 1), but the date of initial occupation is likely to be substantially later. The 1891 and 1931 Corps of Engineers river channel maps show the Turner Hollow Road in its present location, but the road is not depicted on the 1934 Hardin 15' USGS topographic map. The 1931 Corps map shows two structures at the location of site 11-C-211, but no structures are indicated on either the 1891 Corps map or the 1934 USGS map. Apparently, the two structures present at the site in 1931 were removed sometime before 1934.

CHAPTER VII. CONCLUSIONS AND RECOMMENDATIONS

Introduction

The project Scope of Work called for a Phase I archaeological survey and geomorphological evaluation of a 121 acre area within the Bathtown HREP (Appendix A). The objectives of the Phase I survey were to identify and provide a preliminary assessment of historic properties present within areas to be impacted by activities associated with the enlargement and construction of low profile earthen levees, borrow areas, and water control structures. The primary objective of the geomorphological investigation was to document areas within the project area with little or no potential to contain historic properties.

All cultural properties located during the survey were to be evaluated in terms of the National Register of Historic Places (NRHP) criteria of significance (36CFR Sec. 60.6, Federal Register 1976). The criteria are:

The quality of significance in American history, architecture, archaeology, and culture is present in districts, sites, buildings, structures, and objects of state and local importance that possess integrity of location, design, setting, materials, workmanship, feeling, and

- a) That are associated with events that have made a significant contribution to the broad patterns of our history; or
- b) That are associated with the lives of persons significant in our past; or
- c) That embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic value, or that represent a significant and distinguishable entity whose components may lack individual distinction; or
- d) That have yielded, or may be likely to yield, information important in prehistory or history.

Criteria considerations: ordinarily cemeteries, birthplaces, or graves of historical figures, properties owned by religious institutions or used for religious purposes, structures that have been moved from their original locations, commemorative in nature, and properties that have achieved their significance within the past 50 years shall not be considered eligible for the National Register of Historic Places.

Geomorphological Investigation

The results of the geomorphological investigation indicated that a thick (> 90 cm) layer of historic alluvium (PSA) covers most of the construction corridors of the proposed and existing riverside levees. The PSA deposit covering these portions of the project area extends below the maximum depth of construction impact (30-60) and is underlain by poorly-drained, late Holocene to historic floodplain surfaces. The northwestern and southwestern portions of the project area were judged to have little, if any, potential for containing cultural deposits, and, consequently, were surveyed through systematic walkover. No cultural resources were identified during this part of the survey.

The extreme eastern end of the project area lies on a very late Holocene to historic aged tributary fan. Surface erosion has removed the presettlement A horizon at the valley wall, exposing the underlying BC horizon. Buried surfaces were not identified in the profile of the soil core advanced in this area. Because archaeological sites, if present, were expected to occur at or near the surface, this portion of the project area was investigated through screened shovel testing in wooded areas and surface survey of cultivated fields. No cultural resources were identified during the survey of the eastern end of the construction corridor of the existing interior levee.

An early to mid Holocene surface was identified within the central portion of the project area. This portion of the project area originally encompassed the full length of the existing and the proposed interior levees, the southern end (.6 mile) of the existing riverside levee, and the northern end (.2 mile) of the proposed riverside levee. A thin deposit of PSA (0-45 cm) caps most of the early to mid Holocene surface, ranging in depth from 0 cm near the valley wall on the east to 45 cm near the current river channel on the west. Since the proposed interior levee has been deleted from the Batchtown HREP, the maximum depth of construction impact (30 cm) will extend below the PSA deposit only along a 1000-ft-long section of construction corridor at the extreme north end of the proposed riverside levee. This area was tested through the excavation of a backhoe trench near the Turner Hollow Road boat ramp, but no cultural material was observed during inspection of the trench walls.

The central portion of the project area was surveyed through screened shovel testing of weed-covered and forested areas and surface survey of cultivated fields. Seven archaeological sites were recorded during this portion of the survey; six of the sites were identified through surface survey, and one was located through shovel testing.

The central portion of the project area also has some potential for containing buried sites, although these deposits, if present, are apt to lie below the maximum depth of construction impact in areas outside the construction locations of water control structures. As was previously mentioned, backhoe trenching was used to investigate the construction location of the pump station to be built near the Turner Hollow Road boat ramp, but no cultural material was observed during careful examination of the trench walls.

Evaluations of Archaeological Sites

Seven archaeological sites were recorded during the present survey, including three prehistoric sites, three historic sites, and one site containing both prehistoric and historic components. Data relevant to evaluating the NRHP eligibility of these sites that were recorded during the survey are presented in Table 11. These evaluations are based primarily on evidence concerning the age of the sites, the intensity of site occupation, and the severity of previous disturbance.

Prehistoric Sites

Sites 11-C-206, 11-C-208, 11-C-209, and 11-C-210 contain prehistoric occupations. Site 11-C-206 is interpreted as a limited activity site, and sites 11-C-208 and 11-C-209 appear to have functioned as field camps. Functional interpretation of the prehistoric component at site 11-C-210 is complicated by the small size of the artifact collection from this site, but this site may be an example of a small field camp. A Late Woodland or Mississippian triangular point was recovered at site 11-C-209, but none of the other prehistoric sites yielded temporally diagnostic artifacts.

Site 11-C-206 is small, and artifact density and diversity are low. Further archaeological investigation at this site is not likely to result in the identification of intact subsurface deposits or the recovery of a substantial number of artifacts. Site 11-C-206 does not appear to meet the NRHP criteria of significance and, consequently, is evaluated as not potentially eligible for inclusion on the NRHP. Further work at this site does not appear warranted.

Artifact density and artifact class diversity at sites 11-C-208 and 11-C-209 are moderately high. Although both of these sites have been disturbed by modern cultivation, it is possible that the wooded portions of these sites contain intact cultural deposits. Further archaeological investigation of sites 11-C-208 and 11-C-209 may result in the recovery of additional temporally diagnostic artifacts, and possibly subsistence remains as well. Chronological and subsistence data from these sites would be useful in refining the age estimate of the landforms occupied by these sites, and would make an important contribution to efforts to model prehistoric use of an environmental setting that has received little study in this portion of the Mississippi Valley.

Sites 11-C-208 and 11-C-209 appear to meet the NRHP criteria of significance and, consequently, are evaluated as potentially eligible for listing to the NRHP. Although sites 11-C-

Table 11. Summary and Evaluation of Cultural Properties Investigated During Phase I Survey
Within the Batchtown HREP Project Area.

Site Number	Site Type	Identified Components	Site Area (sq. m)	Artifact Density	Artifact Diversity	Site Integrity	National Register	Recommendation
11-C-205	Farmstead	Late 19th-Early 20th c.	2,200	Moderately High	Moderate	Disturbed by Plowing	Ineligible	No Further Work
11-C-206	Limited Activity	Nondiagnostic	2,600	Low	Low	Disturbed by Plowing	Ineligible	No Further Work
11-C-207	Farmstead	Late 19th-Early 20th c.	650	Moderately High	Moderate	Disturbed by Plowing	Potentially Eligible	Phase II Testing
11-C-208	Field Camp	Nondiagnostic	8,000	Moderately High	Moderately High	Disturbed by Plowing	Potentially Eligible	Phase II Testing
11-C-209	Field Camp	Late Woodland/Mississippian	2,000	Moderately High	Moderately High	Disturbed by Plowing	Potentially Eligible	Phase II Testing
11-C-210	Limited Activity or Field Camp	Nondiagnostic	?	Low	Low	Disturbed by Plowing	Potentially Eligible	Phase II Testing
	Farmstead	Late 19th-Early 20th c.	1,500	Moderately High	Moderately High	Disturbed by Plowing	Potentially Eligible	Phase II Testing
11-C-211	Farmstead	Late 19th-Early 20th c.	700	—	—	Disturbed by Bulldozing	Ineligible	No Further Work

208 and 11-C-209 will not be impacted by the revised project, Phase II testing will be necessary at these sites should future changes in the project plans result in their being impacted.

The dearth of data recovered at site 11-C-210 during the present investigation makes it difficult to evaluate the NRHP eligibility of the prehistoric component at this site. However, further archaeological investigation of the prehistoric component at the site may also result in the recovery of temporally diagnostic artifacts that would be useful in estimating the age of the landform it occupies and for understanding the role that this environmental setting played in the settlement/subsistence system of the prehistoric occupants of the project area. Consequently, the prehistoric component at site 11-C-210 is tentatively evaluated as potentially eligible for NRHP inclusion. It is recommended that Phase II test excavations be conducted at site 11-C-210 in order to further document the NRHP eligibility of the prehistoric component.

Historic Sites

Four sites containing historic components were recorded during the survey, including sites 11-C-205, 11-C-207, 11-C-210, and 11-C-211. Each of these sites has been interpreted as a farmstead. Sites 11-C-205 and -211 appear to date to late nineteenth- to early twentieth century, while sites 11-C-207 and -210 appear to have been occupied from the mid-nineteenth to the early twentieth century. No standing structures, foundations, or features were identified at any of the sites, and each of the sites has sustained a moderate to severe degree of disturbance.

Due to their lack of integrity and relatively recent age, sites 11-C-205 and 11-C-211 do not appear to meet the NRHP criteria of significance and, consequently, are evaluated as not potentially eligible for inclusion on the NRHP. No further work is recommended at these sites (Table 11).

Site 11-C-207 and the historic component at site 11-C-210 are evaluated as potentially eligible for listing to the NRHP. Although both sites have sustained a moderate degree of disturbance, it is possible that they contain intact, subsurface deposits. Further archaeological investigation of sites 11-C-207 and 11-C-210 may result in the recovery of data that would be useful in addressing questions concerning the nature of mid-nineteenth-century settlement in this portion of the Mississippi Valley. Site 11-C-207 will not be impacted by the revised project, but Phase II testing will be necessary at this site should future changes in the project plans result in its being impacted. It is recommended that Phase II test excavations be conducted at site 11-C-210 in order to further document the NRHP eligibility of its historic component if the site cannot be avoided as the project is presently planned.

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APPENDIX A

SCOPE OF WORK

Delivery Order # 12
Phase I Archaeological Survey for
Historic Properties within
the Bathtub
Habitat Rehabilitation Enhancement Project (HREP),
Environmental Management Program,
Pool 25, Mississippi River
Calhoun County, Illinois

1. Statement of Work. The purpose of this delivery order is to conduct Phase I archaeological survey for historic properties within the Bathtub Habitat Rehabilitation Enhancement Project (HREP), Environmental Management Program (EMP) located in Pool 25, Mississippi River (mile 242 to mile 248 along the left [east] bank), Calhoun County, Illinois. The Bathtub HREP includes the Bathtub State Fish and Waterfowl Management Area, Illinois Department of Conservation (IDOC) and the lower half of the Bathtub Division, Mark Twain National Wildlife Refuge, U.S. Fish and Wildlife Service (FWS). All work accomplished by the Contractor will be reviewed and approved by the Corps of Engineers, St. Louis District Contracting Officers Representative (COR).

1.2 The main objective of this work order is to locate and identify historic properties present within areas to be impacted by the Bathtub EMP-HREP.

1.3. The major constituents of the work order are: 1) Phase I pedestrian and shovel/soil core assisted subsurface survey sufficient to determine the location of historic properties potentially eligible for the National Register of Historic Places (NRHP) which may be affected by the enlargement (FWS) and construction (IDOC) of the riverside (exterior) levee, interior levees, borrow areas, nine gravity drains, four overflow structures, eight stop log drainage structures, three boat pullovers, four pump stations, two pipes within Dam 25 and clamshell dredging. 2) geomorphological support with hand coring and/or subsurface testing to document areas within the construction area with little or no potential to contain historic properties, 3) documentation based upon archival sources, subsurface testing and visual assessments sufficient to determine project impacts, 4) preparation of a high quality technical report on the archaeological and geomorphological results of the investigations which meets the Corps Scope of Work and the Illinois State Historic Preservation Office Guidelines for Archaeological Reconnaissance Surveys/Reports, and 5) recommendations for any Phase II testing necessary to determine NRHP eligibility.

2. Project Description. In the southern portion of the Batchtown HREP (managed by IDOC), the St. Louis District is proposing to construct a riverside levee, an interior levee, eight stop logs drainage structures, three gravity drains, three overflow structures, three pump systems, two boat pullovers, two gated pipes within Dam 25, and channel dredging. Two gravity drains will be rehabilitated in the IDOC portion. In the northern portion of the Batchtown HREP (managed by FWS), the St. Louis District is proposing to enlarge the existing riverside and exterior levees, construct one stop log drainage structure, two gravity drains, one overflow structure, do channel dredging and rehabilitate on existing pump structure and enlarge the ring levee. See attached map for construction locations. The purpose of the project is to improve wetland and aquatic habitats for waterfowl and fish by decreasing sedimentation and improving water level control. This project is a part of the Environmental Management Program which was established by PL-99-662 to enhance and rehabilitate the Upper Mississippi River system. The proposed project is located on Corps of Engineers fee land managed by the Illinois Department of Conservation (IDOC) and the U.S. Fish and Wildlife Service (FWS).

2.1 Water levels at the Batchtown HREP have been controlled by regulation at Lock and Dam 25 located downstream since 1939. As a consequence of dammed water backing up the Mississippi River, the Batchtown HREP is inundated each summer. This inundation has lead to sedimentation of varying thicknesses across the Batchtown HREP, but information on depth has not been systematically determined.

A geomorphological study conducted by IDOC at 9 selected points indicated plow zone apparently including recent deposition to about 11-14 inches below surface along a ridge south of the proposed interior levee. IDOC personnel indicated that sedimentation (sand in many areas) may range from 2-5 ft. across the project area with the most extensive accumulation on the FWS Middle Pool (see project map). The 1993 flood deposited large piles of sand along the existing FWS river side levee and at least 5-6" of sediment along the proposed IDOC riverside levee alignment and up to 4 ft of sediment elsewhere in the project area. (St. Louis District borings taken across the project area prior to the 1993 flood, do not differentiate strata including recent sedimentation in the top 5 ft. or so.)

2.2 The Batchtown HREP will not experience an increase in inundation due to the EMP project. Instead the season of inundation will change from summer to spring to facilitate waterfowl management. The pool stage along the Mississippi River here is 434 NGVD. The project map shows elevations at and above 434 ft. These ridges (potential site locations) will remain above normal pool after project completion. However, the ridges above 434 ft. now flood an average of one year in three according

to IDOC personnel.

2.3 Possible construction impacts are as follows:

2.3.1. Riverside (exterior) levee will consist of constructing a 2.8 mile low profile earthen levee parallelling the Mississippi River shoreline (IDOC) and connecting the existing FWS levee and Lock & Dam 25. The clearing, levee construction, borrow pits and staging areas will be confined to a corridor not to exceed 190 ft. Depth of ground disturbance associated with levee construction is 1 - 2 feet. After vegetation clearing and grubbing the levee footprint will be disced to a depth of 6 inches. Borrow pit depths will be about 1 foot deep. The existing FWS riverside levee will be raised and widened. The original construction corridor extended about 50 ft. beyond the levee, the proposed construction corridor will extend about 50 ft. beyond this. The total length is about 2.1 miles.

2.3.2 One low level interior levee (elevation 435.5 NGVD) will be constructed connecting the proposed riverside levee (FWS) and the existing ring levee near the bluff line. The proposed interior levee will total about 1.1 miles. The construction corridor will not exceed 195 feet and ground disturbance will be within the upper foot. The existing FWS interior levee will be raised and widened. The construction corridor will be up to 50 ft. on each side of the levee, which is about 1.3 miles long.

2.3.3 Water control structures will be constructed at seven locations requiring survey. Four stop log drainage structures will be constructed in the IDOC riverside levee in areas about 90 x 30 feet, excavations depths will be 8 feet. The three pump stations (one each in proposed riverside levee (IDOC), existing riverside levee (FWS), and Turner Island) will disturb areas about 450 x 100 feet, ground disturbance will be to a depth of about 6 feet.

2.3.4 Two channels will be dredged to form a channel 55 feet wide and three feet deep. Dredge material will be deposited in the FWS middle pool or used for construction of the riverside levee (IDOC). The dredging will remove recent sediments in existing channels and no archaeological investigation of this will be required. Dredging is planned to stop at least 2000 ft from the vicinity of prehistoric site 11C85 so the site location will not be impacted.

2.3.5 Other items proposed for this project will be constructed in areas disturbed by previous construction or will be within the proposed riverside and interior levee construction corridors or in the water including five stop log drainage structures, seven gravity drains (48 inch corrugated metal pipes with gates), four

overflow structures, two boat pull-overs, and renovation of one existing pump and two existing 38 inch gravity drains. Two 54 inch drains will be constructed in the existing dam; the associated coffer dam will be constructed in an area previously disturbed by the dam construction.

3. Background. The Illinois Historic Preservation Agency indicated that as of February 17, 1994, three previous archaeological studies has been made in the Batchtown HREP, but little systematic survey has been done. These included a literative search for the entire HREP (1978), survey for boat ramp located at south end of existing riverside levee (1978), and an IDOC geomorphological testing and assessment of potential site occurrence (1988). The IDOC study concluded that there was a very low potential for prehistoric sites in the area; unfortunately the study did not incorporate previous archaeological and geomorphological data available. Three potential historic sites were identified.

Information provided by the Illinois Historic Preservation agency on February 17, 1994 indicates that no prehistoric sites have been reported from the construction areas, but two have been reported from the Batchtown HREP. One site, 11C85 was reported as a Mississippi village on an island in the SE project area (IDOC). That area now appears to be covered with recent sediments. The second site, 11C15, is Woodland period and located near the mouth of Madison Creek at the bluff base.

Several potential late 19th - early 20th century historic sites are indicated on historic maps dated 1891 (Corps), 1931 (Corps) and 1934 (Hardin quad) in areas which may be impacted by construction.

Proposed riverside levee (IDOC) - 1891 map shows Wilson's Landing about 1 mile upstream from the 1931 & 1934 location; however, both the 1931 and 1934 maps show a structure at the upstream location. The 1931 and 1934 maps show structues at the relocated Wilson's Landing, also IDOC Site# 3, which probably has been destroyed by Pool 25.

Proposed interior levee (IDOC) - 1891, 1931 and 1934 maps show a road running along much of the proposed levee alignment. Near the juncture with the proposed riverside levee, the 1931 map show 2 structures and the 1934 map shows 1 structure.

Existing ring levee (FWS) - At the SE and is IDOC site #3; the 1931 map shows 2 structures, the 1934 map shows one structure.

Existing riverside levee (FWS) - 1891 map shows Turners Landing; several structures are shown at this vicinity on both

the 1931 and 1934 maps. One possible historic site was noted by the boat ramp survey (1978). The 1931 map shows 1 more structure further north along the shoreline, while the 1934 map shows 2 more structures at locations different from the 1931 location. The 1931 map shows 3 additional landings, while the 1934 map shows one (different) landing. Whether and/or to what extent these sites may have been disturbed or destroyed by the previous levee construction needs to be determined.

Existing interior levee (FWS) - Both 1891 and 1931 maps show a road running along the present levee alignment. The map shows two structures just north of the road's mid-point.

Turner Island (IDOC) - none of the map show any structures on the island.

Geomorphological information presently available suggests the possibility of late prehistoric (at least Mississippian) and early historic sites in the project area. Comparison of the 1891 map with a current aerial photo and topographic map shows stability of the river-shoreline and interior ridges during that period; these are the land forms which will be impacted by levee construction and enlargement. The 1891 map shows agricultural fields on portions of the ridges where construction will occur; the fields suggest that the ridges were relatively stable and dry during the 19th century. Furthermore, the present shoreline configuration is very similar to that depicted in a Corps study showing the 1820's and 1830's General Land Office (GLO) survey. The GLO survey shoreline does appear to be slightly further west than the present one. The GLO survey showed Turner Island much smaller than at present. During the 19th century, Turner Island grew by accretion primarily on its east side. In fact, the island's east side eventually grew to about the earlier location of the GLO survey main shoreline.

The IDOC geomorphological study based on nine borings concluded that Archaic or earlier sites would be unexpected anywhere in the study area. Also, that there was a "slim possibility" for late prehistoric sites along the riverbank and interior ridges. The IDOC study based this on the supposition that the Mississippi channel had been located along the eastern bluff line in relating recent times, possibly during the historic period. (The IDOC study apparently did not take into account the Mississippian site reported from the SE project area. The site location appears to coincide with a small field on the north side of Sand Bay, as shown on the 1891 map.) An alternative scenario has been suggested by District personnel: the Mississippi River has remained West of the Bathtown Area during normal flow, for sometime. However, during flood stage the river flowed against the eastern bluff.

The IDOC study also suggested that buried prehistoric sites are not likely to occur beneath the alluvial fan at the mouths of Turner and Dixon Hollows. Two borings documented recent (presumable 19th and 20th century) alluvium over a meter thick, suggesting that enlargement of the existing ring levee proposed here will not impact prehistoric sites. Furthermore, the IDOC study suggested that the a relatively young land surface underlies the recent alluvial fan.

4. Specifications.

4.1 A literature search will be conducted to provide a succinct prehistoric and historic overview pertaining to the immediate area. If applicable, the literature search will include, but not necessarily be confined to, archaeological site reports, plat books, atlases, maps (including river channel maps), county histories, soil series maps, and other relative documentation.

4.2 In conjunction with the pedestrian survey, the Contractor will hand excavate, core with handheld soil corer and /or use heavy equipment necessary to investigate the subsurface potential for buried cultural resources at locations where construction may/will extend below the zone of recent silt deposition. Examination of existing maps and geomorphological data, should precede the detailed field investigations. It is anticipated that survey of the levee construction corridors (totalling about 118 acres) will require 3 transects with shovel tests and/or hand held core at 20 m intervals. The water control structure locations (totalling about 1.7 acres) and pump stations (totalling about 1.0 acre) will be similarly tested on a 20 m grid in the nonaquatic portions only. About 121 acres will be impacted by construction. Additional subsurface testing may be required at locations where construction will extend beyond the depth of the handheld corer. If possible the location and present condition of prehistoric site 11C85 should be determined and if possible the site should be flagged or otherwise marked so that it can be avoided during dredging.

4.3 The Contractor shall discuss the general implications of the documentary and geomorphological results within the framework of site management. The majority of the geomorphological analysis shall be limited to field interpretation with only very limited lab analysis. The geomorphological investigations shall be conducted in support of the detailed archaeological interpretation and determination of site integrity and stratigraphic limits. Also, results of the geomorphological investigations should be discussed in the context of the geomorphological study of Pool 25, Mississippi River, prepared for the St. Louis District (Simons *et al.* 1975).

4.4 The Contractor shall provide a sufficient level of investigation (documentary, archaeological, and geomorphological) for the St. Louis District to assess the potential for the proposed construction areas to contain significant archaeological and architectural sites. Both historic and prehistoric sites will be addressed. Complete legal descriptions will be provided. Appropriate site forms will be submitted to the St. Louis District. All sites shall be plotted on U.S.G.S. topographical maps and submitted with the final report.

4.5 The Contractor shall make recommendations for any Phase II testing that may be necessary to determine NRHP eligibility of each resource encountered as well as indicate the condition of the resource and potential impacts. The Contractor shall also indicate those resources that will require no additional investigations. A formal determination of eligibility is not a requirement of this work order. However, any resource which can be clearly evaluated as eligible or not eligible for listing on the NRHP should be evaluated and included in the report recommendations.

4.7 Photographs: Photographs shall be black and white prints and color slides prepared in accordance with the Contract, Section C, 7.2 .5 and 7.2.6. These photographs shall show details of field conditions, features, profiles, artifacts, or other evidence of past cultural activity. The black and white prints included in each copy of the final report shall be selected as specified in paragraph 7.1 below.

4.8 Monumentation and Contour Mapping. The Contractor is responsible for establishing a site datum at each site located using survey monuments provided by the Government.

4.9 Laboratory Procedures. Artifacts collected during survey shall be cleaned, permanently labeled, and catalogued according to the St. Louis District Curation Standards, (Contract, Section C, Part II). The contractor shall analyze the collection by separating the artifacts into appropriate material categories, then subdividing as needed into smaller, functional and stylistic categories. Basic analytical studies include, but are not limited to:

a. Lithic analysis. This shall include a description of morphological, functional, and stylistic attributes, as well as the identification of raw material. Analysis shall also determine intrasite and local relationships.

b. Ceramic analysis. This shall include a description of morphological and stylistic attributes, and shall also identify intrasite and local relationships.

5. Conferences: Conferences shall be held in accordance with the Contract, Section C, 5.

6. Location and Description of the Study Area: A map showing the project location and construction areas shall be furnished to the Contractor by the Government. A Government representative familiar with the project location will accompany the Contractor during the initial project inspection.

7. Reporting:

7.1 Draft Report. The Contractor shall submit a draft report which shall be a complete and accurate representation of the final report. The report shall be a technical report of the results of the survey and geomorphological investigations and also shall include discussion of how the results of the work will contribute to the present understanding of the Mississippi River valley culture history. The draft (and final) report shall include photographs and/or graphics which shall accurately show: 1) the location and topographic position of any sites recorded; 2) the location of subsurface cores and 3) the details of any features, profiles, artifacts, or any other cultural evidence. The draft report shall be typed and double spaced, and three (3) copies shall be provided to the COR. All pages shall be numbered. The draft shall be completely proofread so that it shall be free of typographic errors and other editorial deficiencies. Drawings, tables and other non-photographic illustrations shall appear in the same quality, size, format, and location in the draft report as they will be in the final report. Photographs shall not be enlarged and reproduced for the draft report. The Contractor shall submit contact prints with recommendations for those to be included in the final report to the COR. The COR will review these and select those to be included in the final report. The Contractor shall then be responsible for enlargement and reproduction according to the Contract Section C, 7.2.5.

7.2 Final Report. The final report shall be prepared in accordance with the Contract Section C, 7.2. Maps and drawings may be prepared using either mechanical or computer generated lettering and shall be in accordance with good drafting practice.

8. Government Furnished Information: The Government shall furnish to the Contractor the following items: (1) St. Louis District Report Format Requirements, (2) St. Louis District, Batchtown HREP Fact Sheet, (3) USGS 7.5 minute topographic map showing the project location, (4) Simons et al. 1975, Environmental Inventory and Assessment of Navigation Pools 24, 25, and 26, Upper Mississippi and Lower Illinois Rivers, A geomorphological Study (relevant portions), (5) Survey Monuments (as needed). These items shall be forwarded under separate cover.

9. Contractor Capability: It is anticipated that the following personnel types may be required at some point during the completion of the delivery order: (1) Principal Investigator (1), (b) Field Supervisor (1), (c) Lab Supervisor (1), (d) Lab Assistant (1), (e) Field Archaeologist (2), (f) Geologist (1), (g) Clerical (1), and (h) Draftsman (1).

10. Publicity. Publicity shall be in accordance with the Contract Section C, 11.

11. Right-of-Entry. The land in the contract area is Federally owned. At least one week prior to beginning field work, The Contractor shall notify Ms. Suzanne Harris, Archaeologist at (314) 331-8467. At the same time, the Contractor shall also notify Mr. Neil Booth, Manager, IDOC, Mississippi River Fish and Wildlife Area office at (618) 376-3303 and Ms. K.L. Drews, Refuge Manager, FWS, Brussels District, Mark Twain National wildlife Refuge at (618) 883-2524. The FWS riverside levee is gated at the south end, the key may be obtained at the Brussels District Office.

12. Schedule of Work:

12.1 Post-Award Meeting. After the issuance of the delivery order, the Contractor (including the field supervisor and the principal investigator) shall meet with the COR and other Government representative(s) as appropriate. This conference will take place within 7 calendar days after the date of the delivery order. At this meeting the COR will name other Government contacts as appropriate. The meeting shall take place at the Batchtown Project Area.

12.2 Meeting 2: This meeting shall occur at the approximate 50% completion point of field work and shall take place at the Batchtown project area.

12.3 Meeting 3. This meeting shall occur at the completion of the artifact analysis/processing and prior to transmittal of The artifacts and documents to the Illinois State Museum. This meeting shall take place in the Contractor's office.

12.4 Field Work. All field work shall be completed within 30 calendar days of the award of the contract.

12.5 Preliminary Field Results Letter. A brief letter report detailing the preliminary field results with initial management options for a Phase I no effect or Phase II archaeological testing/mitigation shall be provided to the St. Louis District seven days after completion of the field work.

12.6 Analysis and Draft Report. Artifact analysis and draft

report preparation shall be completed with 90 calendar days following award of the contract.

12.7 Review. Government review comments will be furnished to the Contractor within 30 calendar days after receipt of the draft report. The Government shall conduct coordination with the Illinois State Historic Preservation Officer, the U.S. Fish and Wildlife Service and the Illinois Department of Conservation.

12.8 Final Report. The final report shall be submitted to the Government within 30 calendar days following receipt of the review comments. The final report shall be bound using spiral binders in covers provided by the St. Louis District.

13. Time Extensions. In the event the schedules in paragraph 12 above are exceeded due to causes beyond the control and without the fault or negligence of the Contractor, the contract will be modified in writing and the contract completion date will be extended one calendar day for each calendar day of delay.

14. Site Backfilling & Revegetation. The Contractor shall backfill all excavation units as soon as they have been recorded, unless specific units need to be left open for further inspection, after which they shall be backfilled.

APPENDIX B

SOIL PROFILE DESCRIPTIONS

SITE NAME: ST1, Bathtown EMP
GEOMORPHIC SURFACE: Very late Holocene to historic surface.
POSITION IN LANDSCAPE: Flat lying.
PARENT MATERIALS: Mississippi River alluvium.
WATER TABLE: 90 cm.
SLOPE: 0-2%
VEGETATION: Softwood forest.
METHODOLOGY: Sampling tube core.
DEPTH OF CORE, TRENCH, BORING, OR SOIL PIT: 100 cm
DATE DESCRIBED: 6/9/1994
DESCRIBED BY: Jeff Anderson
REMARKS: Thick bedded massive PSA.

DEPTH CM	SOIL HORIZON OR DEPOSITIONAL UNIT	DESCRIPTION
0-100	C	10YR 4/4 - 3/3; silt loam and loam; massive; friable; PSA flood laminae; few fine faint mottles below 50cm; unleached.

SITE NAME: ST2, Bathtown EMP
GEOMORPHIC SURFACE: Very late Holocene to historic surface.
POSITION IN LANDSCAPE: Flat lying.
PARENT MATERIALS: Mississippi River alluvium.
WATER TABLE: Below bottom of core.
SLOPE: 0-2%
VEGETATION: Softwood forest.
METHODOLOGY: Sampling tube core.
DEPTH OF CORE, TRENCH, BORING, OR SOIL PIT: 110 cm
DATE DESCRIBED: 6/9/1994
DESCRIBED BY: Jeff Anderson
REMARKS: Thick bedded massive PSA.

DEPTH CM	SOIL HORIZON OR DEPOSITIONAL UNIT	DESCRIPTION
0-100	C	10YR 4/4 - 3/3 - 3/2; silt loam and loam; weak medium granular to massive; friable; PSA flood laminae; few to common fine roots; unleached to 70 cm, leached to 110 cm.

SITE NAME: ST3, Batchtown EMP

GEOMORPHIC SURFACE: Late Holocene surface.

POSITION IN LANDSCAPE: Flat lying.

PARENT MATERIALS: Mississippi River alluvium.

WATER TABLE: Below bottom of core.

SLOPE: 0-2%

VEGETATION: Mixed hardwood and softwood forest.

METHODOLOGY: Sampling tube core.

DEPTH OF CORE, TRENCH, BORING, OR SOIL PIT: 110 cm

DATE DESCRIBED: 6/9/1994

DESCRIBED BY: Jeff Anderson

REMARKS: Thick bedded massive PSA over a late Holocene soil. PSA to 90 cm.

DEPTH CM	SOIL HORIZON OR DEPOSITIONAL UNIT	DESCRIPTION
0-90	C	10YR 4/4 - 3/3 - 2/2; silt loam; weak medium granular and weak medium subangular blocky; friable; PSA flood laminae; many fine roots and root holes; unleached upper unit leached lower unit; abrupt smooth.
90-105	Ab	10YR 2/2; silt loam; moderate medium subangular blocky breaking to moderate medium granular; friable; many fine roots; leached; clear wavy.
105-110	Bw	10YR 4/3; silt loam; moderate medium subangular blocky; friable; many fine root holes; leached.

SITE NAME: ST4, Batchtown EMP

GEOMORPHIC SURFACE: Late to very late Holocene surface.

POSITION IN LANDSCAPE: Flat lying.

PARENT MATERIALS: Mississippi River alluvium.

WATER TABLE: Below bottom of core.

SLOPE: 0-2%

VEGETATION: Cottonwood, silver maple forest.

METHODOLOGY: Sampling tube core.

DEPTH OF CORE, TRENCH, BORING, OR SOIL PIT: 110 cm

DATE DESCRIBED: 6/9/1994

DESCRIBED BY: Jeff Anderson

REMARKS: Thick bedded massive PSA over a late to very late Holocene soil. PSA to 95 cm.

DEPTH CM	SOIL HORIZON OR DEPOSITIONAL UNIT	DESCRIPTION
0-20	C	10YR 6/4; sandy loam (fine sand); single grained; friable; 1993 PSA flood lamina; unleached; abrupt smooth.
20-95	C2	10YR 3/3; silt loam; weak medium granular to massive; friable; PSA silt flood laminae with some very fine sand lenses; common fine roots and root holes; unleached upper unit leached lower unit; abrupt smooth.
95-110	Ab	10YR 2/2; silt loam; moderate fine subangular blocky breaking to moderate medium granular; friable; many fine root holes; leached.

SITE NAME: ST5, Batchtown EMP

GEOMORPHIC SURFACE: Very late Holocene to historic surface.

POSITION IN LANDSCAPE: Flat lying.

PARENT MATERIALS: Mississippi River alluvium.

WATER TABLE: Below bottom of core.

SLOPE: 0-2%

VEGETATION: Cottonwood, elm and silver maple forest.

METHODOLOGY: Sampling tube core.

DEPTH OF CORE, TRENCH, BORING, OR SOIL PIT: 120 cm

DATE DESCRIBED: 6/10/1994

DESCRIBED BY: Jeff Anderson

REMARKS: Thick bedded massive PSA.

DEPTH CM	SOIL HORIZON OR DEPOSITIONAL UNIT	DESCRIPTION
0-120	C	10YR 4/4 - 3/3 - 3/2; silt loam and loam; weak medium granular to massive; friable; PSA flood laminae; few gleyed laminae; unleached.

SITE NAME: ST6, Batchtown EMP

GEOMORPHIC SURFACE: Very late Holocene to historic surface.

POSITION IN LANDSCAPE: Flat lying.

PARENT MATERIALS: Mississippi River alluvium.

WATER TABLE: 110 cm.

SLOPE: 0%

VEGETATION: Elm, boxelder and silver maple forest.

METHODOLOGY: Sampling tube core.

DEPTH OF CORE, TRENCH, BORING, OR SOIL PIT: 120 cm

DATE DESCRIBED: 6/9/1994

DESCRIBED BY: Jeff Anderson

REMARKS: Thick bedded massive PSA.

DEPTH CM	SOIL HORIZON OR DEPOSITIONAL UNIT	DESCRIPTION
0-120	C	10YR 4/4 - 3/3 - 3/2; silt loam, loam and sandy loam (medium sand); massive to single grained; friable; PSA flood laminae; few gleyed laminae; unleached.

SITE NAME: ST7, Batchtown EMP

GEOMORPHIC SURFACE: Very late Holocene to historic surface.

POSITION IN LANDSCAPE: Flat lying.

PARENT MATERIALS: Mississippi River alluvium.

WATER TABLE: Below bottom of core.

SLOPE: 0%

VEGETATION: Forest

METHODOLOGY: Sampling tube core.

DEPTH OF CORE, TRENCH, BORING, OR SOIL PIT: 120 cm

DATE DESCRIBED: 6/9/1994

DESCRIBED BY: Jeff Anderson

REMARKS: Thick bedded massive PSA.

DEPTH CM	SOIL HORIZON OR DEPOSITIONAL UNIT	DESCRIPTION
0-120	C	10YR 4/4 - 3/3 - 2/1; silt loam, loam and sandy loam (medium sand); weak medium granular to single grained; friable; some fine grained units have root holes and structural development; PSA flood laminae; unleached.

SITE NAME: ST8, Batchtown EMP

GEOMORPHIC SURFACE: Very late Holocene to historic surface.

POSITION IN LANDSCAPE: Flat lying.

PARENT MATERIALS: Mississippi River alluvium.

WATER TABLE: 70 cm.

SLOPE: 0%

VEGETATION: Willow, cottonwood, and silver maple.

METHODOLOGY: Sampling tube core.

DEPTH OF CORE, TRENCH, BORING, OR SOIL PIT: 140 cm

DATE DESCRIBED: 6/9/1994

DESCRIBED BY: Jeff Anderson

REMARKS: Thick bedded massive PSA.

DEPTH CM	SOIL HORIZON OR DEPOSITIONAL UNIT	DESCRIPTION
0-20	C	10YR 4/4; silt loam; massive; friable; 1993 PSA flood lamina; unleached; abrupt smooth.
20-140	C2	10YR 4/4 - 3/3 - 2/2; silt loam, loam and sandy loam (medium sand); massive; friable; PSA flood deposits; medium sand lamina 90-130cm; gleyed silt loam 130-140cm; some units leached others unleached.

SITE NAME: ST9, Batchtown EMP

GEOMORPHIC SURFACE: Very late Holocene to historic surface.

POSITION IN LANDSCAPE: Flat lying.

PARENT MATERIALS: Mississippi River alluvium.

WATER TABLE: 110cm.

SLOPE: 0%

VEGETATION: Willow, cottonwood, and silver maple.

METHODOLOGY: Sampling tube core.

DEPTH OF CORE, TRENCH, BORING, OR SOIL PIT: 140cm

DATE DESCRIBED: 6/9/1994

DESCRIBED BY: Jeff Anderson

REMARKS: Thick bedded massive PSA.

DEPTH CM	SOIL HORIZON OR DEPOSITIONAL UNIT	DESCRIPTION
0-140	C	10YR 4/4 - 3/3 - 2/2; silt loam, loam and sandy loam (medium sand); weak medium granular, massive to single grained; friable to sticky; PSA flood deposits; gleyed leached silt loam 130-140cm; unleached to 130cm.

SITE NAME: ST10, Batchtown EMP

GEOMORPHIC SURFACE: Historic surface.

POSITION IN LANDSCAPE: Flat lying.

PARENT MATERIALS: Mississippi River alluvium.

WATER TABLE: 15 cm.

SLOPE: 0%

VEGETATION: Duck weed.

METHODOLOGY: Sampling tube core.

DEPTH OF CORE, TRENCH, BORING, OR SOIL PIT: 120 cm

DATE DESCRIBED: 6/9/1994

DESCRIBED BY: Jeff Anderson

REMARKS: Very recent thick bedded massive PSA.

DEPTH CM	SOIL HORIZON OR DEPOSITIONAL UNIT	DESCRIPTION
0-120	C	10YR 3/3; silt loam and loam; massive; sticky; very recent PSA flood deposits; unleached.

SITE NAME: ST11, Batchtown EMP

GEOMORPHIC SURFACE: Early to mid Holocene surface.

POSITION IN LANDSCAPE: Flat lying.

PARENT MATERIALS: Mississippi River alluvium.

WATER TABLE: Below bottom of core.

SLOPE: 0%

VEGETATION: Mixed prairie and forest vegetation.

METHODOLOGY: Sampling tube core.

DEPTH OF CORE, TRENCH, BORING, OR SOIL PIT: 105 cm

DATE DESCRIBED: 6/10/1994

DESCRIBED BY: Jeff Anderson

REMARKS: 40 cm of PSA over an early to mid Holocene terrace soil.

DEPTH CM	SOIL HORIZON OR DEPOSITIONAL UNIT	DESCRIPTION
0-40	C	10YR 3/3 - 2/2; silt loam; weak medium granular; friable; PSA flood laminae; common fine roots; unleached; abrupt smooth.
40-60	A	10YR 2/2; silt loam; moderate medium subangular blocky breaking to moderate medium granular; friable; many fine roots; pH 7.0; clear wavy.
60-105	Btg	10YR 4/3 - 3/2; silty clay loam; moderate medium subangular blocky; friable to sticky; common argillans; common to many fine root holes and worm holes; common medium distinct mottles; common medium Fe concretions; gleying along ped faces; pH 6.0.

SITE NAME: ST12, Batchtown EMP

GEOMORPHIC SURFACE: Early to mid Holocene surface.

POSITION IN LANDSCAPE: Flat lying.

PARENT MATERIALS: Mississippi River alluvium.

WATER TABLE: Below bottom of core.

SLOPE: 0%

VEGETATION: Prairie vegetation.

METHODOLOGY: Sampling tube core.

DEPTH OF CORE, TRENCH, BORING, OR SOIL PIT: 110cm

DATE DESCRIBED: 6/10/1994

DESCRIBED BY: Jeff Anderson

REMARKS: A surface mixed PSA and native soil horizon to 42 cm. Underlying is an early to mid Holocene terrace soil.

DEPTH CM	SOIL HORIZON OR DEPOSITIONAL UNIT	DESCRIPTION
0-42	AC	10YR 2/1; silty clay loam; moderate medium subangular blocky; friable; common fine roots; unleached; abrupt smooth.
42-75	ABt	10YR 3/2; silty clay loam; moderate medium subangular blocky; friable; many fine root holes; few argillans; few fine faint mottles; few fine Fe concretions; leached; clear wavy.
75-110	Bt	10YR 4/4; silty clay loam; moderate medium subangular blocky; friable; common argillans; common to many fine root holes and worm holes; many medium distinct mottles; many medium Fe concretions; leached.

SITE NAME: ST13 and Trench 1, Batchtown EMP

GEOMORPHIC SURFACE: Early to mid Holocene surface.

POSITION IN LANDSCAPE: Flat lying.

PARENT MATERIALS: Mississippi River alluvium.

WATER TABLE: 140 cm.

SLOPE: 0-2%

VEGETATION: Prairie vegetation.

METHODOLOGY: Sampling tube core.

DEPTH OF CORE, TRENCH, BORING, OR SOIL PIT: approximately 200 cm.

DATE DESCRIBED: 6/10/1994

DESCRIBED BY: Jeff Anderson

REMARKS: Sampling tube core to about 170 cm and a backhoe trench extending to 200 cm.

A potential buried surface is identified at about 90 cm, the deposits coarsen to sand and granules below about 150 cm. 40 cm of fill material and PSA cap the surface.

DEPTH CM	SOIL HORIZON OR DEPOSITIONAL UNIT	DESCRIPTION
0-40	C	10YR 2/1; silty clay loam; strong fine subangular blocky; firm; some gravelly fill material and charcoal fragments; common fine roots; unleached; abrupt smooth.
40-50	A	10YR 2/2; silt loam; moderate medium subangular blocky breaking to moderate medium granular; friable; many fine root holes; leached; clear wavy.
50-70	Bt	10YR 2/3; silty clay loam; moderate medium subangular blocky; friable; few argillans; common to many fine root holes and worm holes; leached; clear wavy.
70-90	BC	10YR 4/4; silty clay loam; weak medium subangular blocky; friable; few fine faint mottles; leached; abrupt smooth.
90-100	ABb	10YR 3/2; silty clay loam; moderate medium subangular; friable; few argillans; charcoal fragments; leached; clear wavy.
100-170	BCb	10YR 3/3; loam; weak medium subangular blocky; friable; few fine roots holes; coarsening with depth; leached; gradual smooth.
170-200	Cb	10YR 4/4; loamy sand (medium sand with granules and pebbles); single grained; nonsticky; leached.

SITE NAME: ST14, Batchtown EMP

GEOMORPHIC SURFACE: Early to mid Holocene surface.

POSITION IN LANDSCAPE: Flat lying.

PARENT MATERIALS: Mississippi River alluvium.

WATER TABLE: Below depth of core.

SLOPE: 0%

VEGETATION: Prairie vegetation.

METHODOLOGY: Sampling tube core.

DEPTH OF CORE, TRENCH, BORING, OR SOIL PIT: 90 cm.

DATE DESCRIBED: 6/8/1994

DESCRIBED BY: Jeff Anderson

REMARKS: PSA to 45 cm. Underlying is an early to mid Holocene terrace soil. Somewhat poorly drained.

DEPTH CM	SOIL HORIZON OR DEPOSITIONAL UNIT	DESCRIPTION
0-45	C	10YR 3/3 - 2/2; silt loam; weak medium granular to massive; friable; few fine roots; unleached; gradual smooth.
45-60	A	10YR 2/2; silt loam; moderate medium subangular blocky breaking to moderate medium granular; friable; many fine root holes; few fine faint mottles; few medium Fe concretions; leached; clear wavy.
60-90	Btg	10YR 3/2; silty clay loam; moderate medium subangular blocky; friable; few argillans; common to many fine root holes and worm holes; common medium distinct mottles; common medium Fe concretions; pH 5.5.

SITE NAME: ST15, Batchtown EMP

GEOMORPHIC SURFACE: Early to mid Holocene surface.

POSITION IN LANDSCAPE: Flat lying.

PARENT MATERIALS: Mississippi River alluvium.

WATER TABLE: Below depth of core.

SLOPE: 0%

VEGETATION: Prairie vegetation.

METHODOLOGY: Sampling tube core.

DEPTH OF CORE, TRENCH, BORING, OR SOIL PIT: 110 cm.

DATE DESCRIBED: 6/8/1994

DESCRIBED BY: Jeff Anderson

REMARKS: PSA to 25 cm. Underlying is an early to mid Holocene terrace soil.

DEPTH CM	SOIL HORIZON OR DEPOSITIONAL UNIT	DESCRIPTION
0-25	C	10YR 2/2; silt loam; weak medium granular to massive; friable; few fine roots; pH 6.5; abrupt smooth.
25-50	A	10YR 2/1; silt loam; moderate medium granular; friable; many fine root holes; pH 6.0; clear wavy.
50-65	AB	10YR 3/2; silty clay loam; moderate medium subangular; friable; organic inclusions; few fine faint mottles; leached; clear wavy.
65-110	Bt	10YR 4/3; silty clay loam; moderate medium subangular blocky; friable; few argillans; few fine roots; common medium distinct mottles; common fine Fe concretions; leached.

SITE NAME: ST16, Batchtown EMP

GEOMORPHIC SURFACE: Early to mid Holocene surface.

POSITION IN LANDSCAPE: Flat lying.

PARENT MATERIALS: Mississippi River alluvium.

WATER TABLE: Below depth of core.

SLOPE: 0%

VEGETATION: Prairie vegetation.

METHODOLOGY: Sampling tube core.

DEPTH OF CORE, TRENCH, BORING, OR SOIL PIT: 110 cm.

DATE DESCRIBED: 6/8/1994

DESCRIBED BY: Jeff Anderson

REMARKS: PSA to 20 cm. Underlying is an early to mid Holocene terrace soil.

DEPTH CM	SOIL HORIZON OR DEPOSITIONAL UNIT	DESCRIPTION
0-20	C	10YR 2/2; silt loam; weak medium granular to massive; friable; few fine roots; unleached; abrupt smooth.
20-35	A	10YR 2/1; silt loam; moderate medium granular; friable; many fine root holes; pH 7.5; clear wavy.
35-70	Bt	10YR 4/4 - 7.5YR 4/4; silty clay loam; moderate medium subangular blocky; friable; few to common argillans; many fine root and worm holes; few fine faint mottles; leached; clear wavy.
70-95	BC	10YR 4/4; silt loam; weak medium subangular blocky; friable; common medium distinct mottles; common medium Fe concretions; leached; gradual smooth.
95-110	C	10YR 4/4; silt loam; massive; friable; common medium distinct mottles; common medium Fe concretions; leached.

APPENDIX C
CORRESPONDENCE

U.S. Fish & Wildlife Service

Refuges and Wildlife

FEDERAL BUILDING, FORT SNELLING, TWIN CITIES, MN 55111

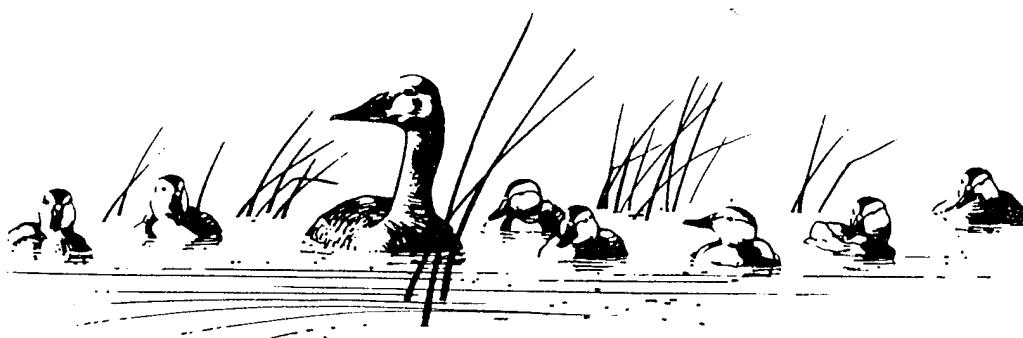
7-12-95

Suzanne,

The Dismal District, Mark Twain NWR, has provided additional comments regarding the
Oatchtoom HREB, attached for your information
and use.

John D. Llewellyn

P.S. Thanks for the upgrade to "Dr.", but I have
not earned it.





FAXFORM

U.S. FISH AND WILDLIFE SERVICE - REGION 3 PAGE 01 OF 4 PAGES

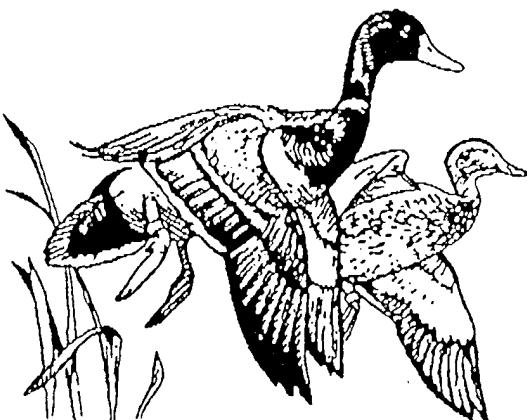
DATE: 7/10/95

TO: John Dobrovolny (\$\$) PHONE: 612/725-3924
FAX: 612/725-1754

FROM: K.L. Drews, Mark Twain NWR, Brussels PHONE: 618/883-2524
FAX: 618/883-2201

SUBJECT: Response to Archeological Survey Report, Batchtown

It still appears that the archaeologists believe the ramp was part of historic site. See pp. 49-50. The site is in our Moist Soil Unit alongside the Service's patrol road. Ramp has been on FWS Real Property Inventory since constructed in 1966.



CHAPTER VI. RESULTS OF ARCHAEOLOGICAL SURVEY

Introduction

Seven archaeological sites were recorded during the present survey, including 3 prehistoric sites, 3 historic sites, and 1 site containing both prehistoric and historic components (Figure 10). This chapter presents a description of each of these sites and an inventory of the artifacts recovered from them.

A modified version of the functional artifact typology used by American Resources Group, Ltd. for previous survey and testing projects (Moffat et al. 1989; Titus and Snyder 1992; Titus et al. 1993) has been used to organize the data presented in the prehistoric artifact inventory table. This functional typological system is similar to that used by McMillan (1971) and Ahler and McMillan (1976) to analyze the artifacts from Rogers Shelter. Originally developed by Winters (1969), this typological system facilitates inference of site function by grouping artifact classes into general behavioral categories.

Site Descriptions

11-C-205

Site Type: Historic farmstead

Component: Late nineteenth to early twentieth century

Site Location: NE1/4, SE1/4, NW1/4, NE1/4 of Sec. 36, T11S-R3W

Project Location: Western half inside the construction corridor of the existing riverside levee (FWS)

Approximate Site Area: 90 m NW-SE x 30 m NE-SW; 2,200 m²

Topographic Location: Floodplain ridge

Elevation: 438 ft AMSL

Soil Series: Wakeland silt loam

Nearest Water: Mississippi River, 10 m west

Survey Method: Screened shovel testing along transects spaced 10 m apart.

Site Condition: The site has been disturbed to a depth of approximately 22 cm by modern cultivation.

Description. Site 11-C-205 consists of an earthen loading ramp and a light to moderately dense scatter of historic artifacts. The site is situated at the western end of an east-west oriented

MANAGED
MOIST SOIL
UNIT -- NOT →
ABANDONED FIELD

SERVICE'S →
ROAD

LOADING RAMP →
CONSTRUCTED
by FWS in
1966. IT HAS
BEEN ON SERVICE
REAL PROPERTY
SINCE THEN.

floodplain ridge, approximately 10 m east of the current channel of the Mississippi River (Figure 10). The narrow, relatively level crest of the ridge is flanked on the north by a gentle swale, and, on the south, by a moderately steep slope and water-filled swale. The site is located in the southwestern corner of an abandoned, weed-covered agricultural field (Figure 11). A gravel road leading north from the Turner Hollow Road boat ramp ends at a metal gate that is located approximately 15 m south of the site. A low-lying, earthen levee crosses the west end of the site, passing between the loading ramp and the field containing the historic artifact scatter. The loading ramp and the western half of the historic artifact scatter are located inside the construction corridor of the existing riverside levee (FWS), but the eastern half of the artifact scatter lies outside the project area (Figure 11).

Site 11-C-205 was located and defined through a combination of visual inspection of the area containing the loading ramp and screened shovel testing. A total of 19 shovel tests was dug in the site area, and 13 of these contained artifacts (Figure 11). Most of the positive tests yielded small brick fragments and cinders, several contained pieces of limestone and/or mortar, and seven of the tests contained ceramic, glass, and/or metal artifacts as well. No standing structures are present at the site, and no foundations, cisterns, or wells were observed during the investigation.

The north-south oriented loading ramp is approximately 17 m long, 9 m wide at the base, and 3 m wide on top (Figure 11). The ramp rises from ground level at its north end to a height of approximately 1.75 m at its south end. A wooden retaining wall is located at the south end of the earthen ramp.

Soils observed in a shovel test excavated at site 13-C-205 consisted of approximately 40 cm of black 10YR 2/1 silt loam over a very dark grayish brown 10YR 3/2 silty clay loam. A distinct plow zone was not observed in the tests excavated at the site.

Artifacts. A total of 11 historic artifacts was collected from shovel tests dug at the site (Table 6). Numerous small brick fragments and cinders, and several pieces of limestone and mortar, were observed in shovel tests, but were not collected. The functional categories represented in the collection are kitchen and architecture. Kitchen-related ceramic artifacts include plain whiteware (1830+). Kitchen-related glass artifacts include aqua and clear unidentified glass container body fragments. Architecturally-related artifacts include a wire nail (1880+), a large bolt, brick fragments, mortar, and limestone.

Interpretation. Site 11-C-205 appears to represent the remains of a late nineteenth- to early twentieth-century farmstead complex. The site is located on an 80-acre-parcel that was originally purchased by Levi Turner in July 1839 (Table 1), but the temporally-diagnostic artifacts from the site suggest it may have been initially occupied at a substantially later date. No structures are shown at the location of site 11-C-205 on the 1891 Corps of Engineers river channel map (Chart No. 122), but Turner Landing is indicated at a location approximately .2 mile north of the site. The 1891 Corps map also shows the road connecting Turner Hollow Road with Turner Landing crossing the location of site 11-C-205, and depicts the area surrounding



DEPARTMENT OF THE ARMY

ST. LOUIS DISTRICT, CORPS OF ENGINEERS
1222 SPRUCE STREET
ST. LOUIS, MISSOURI 63103-2833

REPLY TO
ATTENTION OF:

June 13, 1995

Planning Division
Environmental Planning Branch

Dr. John Dobrovolny
Historic Preservation Officer
ATTN: FWS/ARW-SS
Federal Building, Fort Snelling
Twin Cities, Minnesota 55111

Dear Dr. Dobrovolny:

The St. Louis District, U.S. Army Corps of Engineers, hereby provides the U.S. Fish and Wildlife Service with a copy of the following draft report for review: "A Phase I Archaeological Survey for Historic Properties within the Batchtown Habitat Rehabilitation Project (HREP), Pool 25, Mississippi River, Calhoun County, Illinois" by Steve Titus, W. Gordon Howe and Jeffrey D. Anderson, American Resources Group, Ltd., Carbondale, Illinois. This proposed Corps project will be constructed on Corps property which is managed as the Batchtown Division, Mark Twain National Wildlife Refuge by the U.S. Fish and Wildlife Service (FWS) and the Batchtown Fish and Waterfowl Management Area by the Illinois Department of Conservation (IDOC). A draft report has been sent to the Illinois State Historic Preservation Officer (ISHPO) for review.

The report describes the results of a Phase I archaeological survey of areas where plans call for construction of riverside and interior levees, enlargement of existing riverside and interior levees, construction of water control structures and pumps in the levees and dredging, totalling about 121 acres. (The new interior levee has recently been dropped from the project.) In conjunction with the Phase I archaeological survey, geomorphological investigations (soil coring and backhoe trenching) demonstrated the northwestern and southwestern portions of the project area have very little potential for containing cultural deposits. However, within the central portion of the project area (most of which is managed by the FWS), an early to mid Holocene land surface was identified underlying recent alluvium of 45 cm or less thickness. All of the sites identified during the survey (below) were located on this land form.

Seven sites, none of which had been previously recorded, were found by the survey including three prehistoric sites (11-C-206, 11-C-208, 11-C-209), three historic sites (11-C-205, 11-C-207, 11-C-211), and one site with both prehistoric and historic components (11-C-210). All seven sites are located on Corps property managed by the FWS. No sites were found on land managed by the IDOC.

The St. Louis District has made the following preliminary determinations of eligibility for the seven sites:

1. Prehistoric sites 11-C-208 and 11-C-209 and the prehistoric component at 11-C-210 are evaluated as potentially eligible for listing on the National Register of Historic Places based on recommendations in the attached Phase I report. In further consultation with the contractor, the St. Louis District has determined that historic site 11-C-207 and the historic component of site 11-C-210 are potentially eligible based upon artifacts dating to the mid-nineteenth century and scarcity of artifacts typical of the late nineteenth to early twentieth century. The sites also may contain subsurface features (privies, wells, etc.) which may potentially yield important information about this period.

2. Prehistoric site 11-C-206 is evaluated as ineligible due to its low artifact density and diversity (4 flakes, 1 core). Historic sites 11-C-205, and 11-C-211 are evaluated as ineligible for the Register due to their lack of integrity and relatively recent age. Site 11-C-205 was recommended as ineligible by your office and the ISHPO concurred (letter of February 23, 1995, from Ms. Anne E. Haaker, Deputy State Historic Preservation Officer to Dr. John Dobrovolny, U.S. Fish and Wildlife Service.)

None of the sites determined to be potentially eligible will be impacted by project construction as presently planned. The interior levee, which might have impacted sites 11-C-206, 11-C-207, 11-C-208 and 11-C-209, has been dropped from the project. Site 11-C-210 will be avoided by confining construction activities to the other sides of the existing roads bordering the site on two sides. The older land surface identified through the geomorphological investigations has potential for containing sites buried below recent alluvium, but these deposits lie below the depth of construction impact except along about 1000 ft of the proposed new river side levee. This area was tested using a backhoe trench which did not locate any cultural material.

The proposed dredging will remove recent silt from existing sloughs. If any elements of the presently proposed project change, we will notify your office.

The St. Louis District requests any comments that the FWS may have about the potential eligibility or ineligibility of the archaeological sites discussed above, since your agency will be protecting the eligible sites located on Corps property which you manage. If you have any questions, please contact Ms. Suzanne E. Harris, of my staff at (314) 331-8467.

Sincerely,



Owen D. Dutt
Chief, Planning Division

Enclosure



Illinois Department of Conservation

LINCOLN TOWER PLAZA • 524 SOUTH SECOND STREET • SPRINGFIELD 62701-1787 CHICAGO OFFICE • ROOM 4-300 • 100 WEST RANDOLPH • CHICAGO 60601

Brent Manning, Director

John W. Comerio, Deputy Director

Bruce F. Clay, Assistant Director

June 23, 1995

Ms. Suzanne E. Harris
Archaeologist
U.S. Army Corps of Engineers
St. Louis District
1222 Spruce
St. Louis, Missouri 63101-2833

Dear Suzanne:

Thank you for your letter of June 5 requesting a review of the draft report prepared by American Resources documenting the archaeological investigations for the Batchtown EMP. The report is well written. I found both the geomorphological and archaeological information useful.

In the future, I would recommend that the site specific information be arranged into tables for comparative purposes. Given that only three prehistoric flakes were recovered from site C-210 I do not agree that a Phase Two National Register evaluation is warranted.

Sincerely,

A handwritten signature in black ink, appearing to read "Hal".

Harold Hassen, Ph.D.
Cultural Resource Coordinator
Division of Planning

pc. J. Phillippe



DEPARTMENT OF THE ARMY

ST. LOUIS DISTRICT, CORPS OF ENGINEERS
1222 SPRUCE STREET
ST. LOUIS, MISSOURI 63103-2833

REPLY TO
ATTENTION OF:

Planning Division
Environmental Planning Branch

Dr. Harold Hassen
Cultural Resource Coordinator
Division of Planning
Illinois Department of Conservation
524 South Second Street
Springfield, Illinois 62701-1787

Dear Dr. Hassen:

The St. Louis District, U.S. Army Corps of Engineers, hereby provides the Illinois Department of Conservation with a copy of the following draft report for review: "A Phase I Archaeological Survey for Historic Properties within the Batchtown Habitat Rehabilitation Project (HREP), Pool 25, Mississippi River, Calhoun County, Illinois" by Steve Titus, W. Gordon Howe and Jeffrey D. Anderson, American Resources Group, Ltd., Carbondale, Illinois. This proposed Corps project will be constructed on Corps property which is managed as the Batchtown Fish and Waterfowl Management Area by the Illinois Department of Conservation (IDOC) and the U.S. Fish and Wildlife Service (FWS).

The report describes the results of a Phase I archaeological survey of areas where plans call for construction of riverside and interior levees, enlargement of existing riverside and interior levees, construction of water control structures and pumps in the levees and dredging, totalling about 121 acres. (The new interior levee has been dropped from the project now.) In conjunction with the Phase I archaeological survey, geomorphological investigations (soil coring and backhoe trenching) demonstrated the northwestern and southwestern portions of the project area have very little potential for containing cultural deposits. Within the central portion of the project area, an early to mid Holocene land surface was identified underlying recent alluvium of 45 cm or less thickness. All of the sites identified during the survey (below) were located on this land form.

Seven sites, none of which had been previously recorded, were found by the survey including three prehistoric sites (11-C-206, 11-C-208, 11-C-209), three historic sites (11-C-205, 11-C-207, 11-C-211), and one site with both prehistoric and historic

We noted your comment about reducing the survey transect interval from 20 to 10 meters, but did not feel that this was warranted. The shovel testing was conducted at 10 - 15 meter intervals. For your future reference, the Illinois Historic Preservation Program has asked us to use a standard 15 meter interval, which we will do.

If any elements of the presently proposed project change, we will notify your office. If you have any questions, please contact Ms. Suzanne E. Harris of my staff at 314-331-8467.

Sincerely,



Owen D. Dutt
Chief, Planning Division

Enclosure



Illinois Historic Preservation Agency

1 Old State Capitol Plaza • Springfield, Illinois 62701-1507 • (217) 782-4836 • TTY (217) 524-7128

217/785-4997

CALHOUN COUNTY
Batchtown
Habitat Rehabilitation & Enhancement Project

PLEASE REFER TO:
IHPA LOG #940330003M-C
American Resources Group
121 acres 7 sites

July 19, 1995

Ms. Suzanne Harris
US Army Corps of Engineers, St Louis Dst
PDAE Section
1222 Spruce Street
St. Louis, Missouri 63103-2833

Gentlemen:

Thank you for submitting the results of the archaeological reconnaissance. Our comments are required by Section 106 of the National Historic Preservation Act of 1966, as amended, and its implementing regulations, 36 CFR 800: "Protection of Historic Properties".

Our staff has reviewed the archaeological Phase I reconnaissance report performed for the project referenced above. The Phase I survey and assessment of the archaeological resources appear to be adequate. We concur with your evaluation that sites 11-C- 207, C-208, C-209, and C-210 are potentially eligible for listing on the National Register of Historic Places while sites 11-C-205, C-206, and C-211 are ineligible for listing. Further it is our understanding that none of the sites determined to be potentially eligible will be impacted by project construction as planned.

Therefore we concur that the project as presently defined will have no effect upon any Historic Properties. We, therefore, have no objection to the undertaking proceeding as planned.

Please retain this letter in your files as evidence of compliance with Section 106 of the National Historic Preservation Act of 1966, as amended.

Sincerely,

Anne E. Haaker
Deputy State Historic
Preservation Officer

AEH:JSP

cc: Mr. Michael J. McNerney



DEPARTMENT OF THE ARMY

ST. LOUIS DISTRICT, CORPS OF ENGINEERS
1222 SPRUCE STREET
ST. LOUIS, MISSOURI 63103-2833

REPLY TO
ATTENTION OF:

2 JUN 1995

Environmental Planning Branch
Planning Division

Mr. Joseph S. Phillippe
Illinois Historic Preservation Agency
Old State Capitol
Springfield, Illinois 62701

Dear Mr. Phillippe:

Pursuant to the National Historic Preservation Act, Section 106 (as amended), and its implementing regulation 36CFR800, the St. Louis District, U.S. Army Corps of Engineers, hereby provides the Illinois State Historic Preservation Officer with a copy of the following draft report for review: "A Phase I Archaeological Survey for Historic Properties within the Bathtub Habitat Rehabilitation Project (HREP), Pool 25, Mississippi River, Calhoun County, Illinois" by Steve Titus, W. Gordon Howe and Jeffrey D. Anderson, American Resources Group, Ltd., Carbondale, Illinois. This proposed Corps project will be constructed on Corps property which is managed as the Bathtub Fish and Waterfowl Management Area by the Illinois Department of Conservation (IDOC) and the Bathtub Division, Mark Twain National Wildlife Refuge by the U.S. Fish and Wildlife Service (FWS). Draft reports are being sent to these agencies for review.

The report describes the results of a Phase I archaeological survey of areas where plans call for construction of riverside and interior levees, enlargement of existing riverside and interior levees, construction of water control structures and pumps in the levees and dredging, totalling about 121 acres. (The new interior levee has been dropped from the project now.) In conjunction with the Phase I Archaeological Survey, geomorphological investigations (soil coring and backhoe trenching) demonstrated the northwestern and southwestern portions of the project area have very little potential for containing cultural deposits. Within the central portion of the project area, an early to mid Holocene land surface was identified underlying recent alluvium of 45 cm or less thickness. All of the sites identified during the survey (below) were located on this land form.

Seven sites, none of which had been previously recorded, were found by the survey including three prehistoric sites (11-C-206, 11-C-208, 11-C-209), three historic sites (11-C-205, 11-C-207, 11-C-211), and one site with both prehistoric and historic components (11-C-210). All seven sites are located on Corps property managed by the FWS. No sites were found on land managed by the IDOC. The St. Louis District has made the following preliminary determinations of eligibility for the seven sites:

a. Prehistoric sites 11-C-208 and 11-C-209 and the prehistoric component at 11-C-210 are evaluated as potentially eligible for listing on the National Register of Historic Places based on recommendations in the attached Phase I report. In consultation with the contractor, the St. Louis District has determined that historic site 11-C-207 and the historic component of site 11-C-210 are potentially eligible based upon artifacts dating to the mid-nineteenth century and scarcity of artifacts typical of the late nineteenth to early twentieth century.

b. Prehistoric site 11-C-206 is evaluated as ineligible due to its low artifact density and diversity (4 flakes, 1 core). Historic sites 11-C-205, and 11-C-211 are evaluated as ineligible for the Register due to their lack of integrity and relatively recent age. Site 11-C-205 was recommended as ineligible by the Fish and Wildlife Service and your office concurred (letter of February 23, 1995, from Ms. Anne E. Haaker, Deputy State Historic Preservation Officer to Mr. John Dobrovolny, U.S. Fish and Wildlife Service).

None of the sites determined to be potentially eligible will be impacted by project construction as presently planned. The interior levee, which might have impacted sites 11-C-206, 11-C-207, 11-C-208 and 11-C-209, has been dropped from the project. Site 11-C-210 will be avoided by confining construction activities to the other sides of the existing roads bordering the site on two sides. The older land surface identified through the geomorphological investigations has potential for containing sites buried below recent alluvium, but these deposits lie below the depth of construction impact except along about 1000 ft of the proposed new river side levee. This area was tested using a backhoe trench which did not locate any cultural material. The proposed dredging will remove recent silt from existing sloughs.

Based on the findings of the draft report, the St. Louis District has determined that the project as presently defined will have no effect upon potentially eligible cultural properties and we request your concurrence. If any elements of the presently proposed project change, we will notify your office.

If you have any questions, please contact Ms. Suzanne E. Harris of my staff at 314/331-8467.

Sincerely,



Donald C. Sweeney II

for Owen D. Dutt
Chief, Planning Division

Enclosure

PD-A



United States Department of the Interior

FISH AND WILDLIFE SERVICE
Bishop Henry Whipple Federal Building
1 Federal Drive
Fort Snelling, MN 55111-4056

IN REPLY REFER TO:
FWS/ARW-SS

JUL 06 1995

Mr. Owen D. Dutt
Chief, Planning Division
St. Louis District, Corps of Engineers
1222 Spruce Street
St. Louis, Missouri 63103-2833

Dear Mr. Dutt:

Thank you for providing us with a copy of the draft report "A Phase I Archaeological Survey for Historic Properties Within the Batchtown Habitat Rehabilitation Environment Project (HREP), Pool 25, Mississippi River, Calhoun County, Illinois," by Michael J. McNerney (September 1994: American Resources Group, Carbondale, Illinois; 90 pages plus appendices). We understand the investigation covered 121 acres of proposed construction and expansion of riverside and interior levees, water control structures, and dredging, an Environmental Management Program project on U.S. Army Corps of Engineers land including a part of the Mark Twain National Wildlife Refuge. The survey apparently included land in Sections 19, 30, and 31, T.11S., R.2W.; Sections 25 and 36, T.11S., R.3W.; Sections 6, 7, 18, and 19, T.12S., R.2W.; and Sections 1, 12, and 13, T.12S., R.3W., Calhoun County.

The report contains numerous maps. The maps locating the reported former structures and other possible historic sites, the maps locating the identified archeological sites, and the maps locating the soil test cores and trenching are very helpful. The absence of a map locating the areas subjected to archeological survey, including the three survey methods, proved to be a hinderance to fully understanding coverage of the investigation; narrative descriptions on pages 34-36 were not sufficiently helpful. The individual site maps are well done.

This investigation found seven archeological sites on the Refuge. The report identifies site 11-C-205 as a late 19th and 20th century farmstead, and places the Turner Landing 0.2 mile to the north. This location for the Turner Landing would be consistent with Douglas Kullen's report (October 1994). For Kullen, Turner Landing was outside the study area. For McNerney, however, Turner Landing should have been included in the study area and an absence (or presence?) of cultural remains should have been discussed, especially considering the landing site is very near (or in) a proposed borrow area. Similarly the Bellamy Landing, the Churchs or Hogville Landing, and several structure sites identified in Table 3 appear to be very close if not within the construction areas and should have been discussed, even if nothing more than a determination of ineligibility for the National Register.

Mr. Owen D. Dutt

2.

The newly reported sites should help add to understanding the cultural resource base and human use in this part of the state. The report certainly expands on our knowledge of cultural resources in and around the Batchtown Division of the Refuge. We did not look specifically for them, but our review identified a few typographical errors. These items and other editorial questions and comments have been penned in directly on the draft copy for your consideration.

The archeological collection, containing 120 artifacts and associated records and other materials, having been generated as a result of U.S. Army Corps of Engineers activities on Corps land, although located on the Refuge, is the responsibility of the Corps. The report states that the collection will be temporarily located at Archaeological Resources Group, Ltd., and eventually will be placed with the Illinois State Museum at Springfield.

The archeologist recommended prehistoric sites/ components 11-C-208, 209, and 210 be considered eligible for the National Register of Historic Places; and prehistoric site 11-C-206 and historic sites/ components 11-C-205, 207, 210, and 211 considered ineligible. According to your letter, the Corps confirms the potential eligibility of prehistoric sites/components 11-C-208, 209, and 210; and ineligibility of prehistoric site 11-C-206 and historic sites 11-C-205 and 211. Apparently the Corps and the archeologist have subsequently determined historic site/component 11-C-207 and 210 are potentially eligible for the National Register. We have no reason to disagree with your conclusions.

In the event this report is prepared in a final version, we would appreciate receiving five copies of the final report for our own distribution requirements.

Sincerely,



H. John Dobrovolny
Regional Historic Preservation Officer

ABSTRACT

This report describes the results of a Phase I archaeological and geomorphological investigation of a 121 acre area within the Batchtown Habitat Rehabilitation Enhancement Project (HREP), located in Navigation Pool 25, Mississippi River (mile 242 to mile 248 along the left bank), Calhoun County, Illinois. The project area consists of the construction corridors of the existing and proposed exterior and interior levees, and the locations of the seven proposed water control structures to be constructed in areas undisturbed by previous construction. This work was carried out by American Resources Group, Ltd., under terms of a contract with the St. Louis District, U.S. Army Corps of Engineers.

The results of the geomorphological investigation indicate that a thick layer of historical alluvium (PSA) covers most of the project area. The historical deposits covering the northwestern and southwestern portions of the project area extend below the maximum depth of construction impact, and are underlain by poorly-drained, late Holocene to historic floodplain surfaces. The northwestern and southwestern portions of the project area are judged to have very little potential for containing cultural deposits.

A thin deposit of PSA (0-45 cm) caps most of the early to mid Holocene surface identified within the central portion of the project area, indicating the maximum depth of construction impact (30 cm) may in places extend below the historical deposit covering this portion of the project area. The central portion of the project area also has some potential for containing buried sites, although these deposits, if present, are apt to occur within the construction impact zone only in the construction locations of the water control structures. Backhoe trenching was used to examine the construction location of the one water control structure that could be investigated, but no cultural material was observed during careful examination of the trench walls.

A literature and records review indicated that two previously-recorded prehistoric sites are ~~known~~ located within the Batchtown HREP, but that neither is located in the project area. Seven sites were recorded during the field survey, including three prehistoric sites (11-C-206, 11-C-208, 11-C-209), three historic sites (11-C-205, 11-C-207, 11-C-211), and one site containing both prehistoric and historic components (11-C-210).

Sites 11-C-208, 11-C-209, and the prehistoric component at 11-C-210 are evaluated as potentially eligible for listing to the NRHP. It is recommended that Phase II test excavations be conducted at site 11-C-208 if the site can not be avoided. Site 11-C-209 is located outside the present project area boundaries, so Phase II testing will be necessary at this site only should future changes in the project plans result in this site being impacted. It is recommended that Phase II test excavations be conducted at site 11-C-210 in order to further document the NRHP eligibility of the prehistoric component.

Due to their lack of integrity and relatively recent age, sites 11-C-205, 11-C-207, the historic component at 11-C-210, and 11-C-211 are evaluated as not potentially eligible for inclusion on the NRHP. No further work is recommended at these sites.

X 11-C-206?

CHAPTER I. INTRODUCTION

This report describes the results of a Phase I archaeological and geomorphological investigation within the Bathtown Habitat Rehabilitation Enhancement Project (HREP), Environmental Management Program (EMP) project area. The Bathtown HREP project area is located in Navigation Pool 25, Mississippi River (mile 242 to mile 248 along the left bank), Calhoun County, Illinois (Figures 1,2, and 3). This research was funded by the U.S. Army Corps of Engineers and administered by the St. Louis District, St. Louis, Missouri, as part of Contract No. DACW43-92-D-0501.

The Bathtown HREP is a part of the Environmental Management Program established by PL-99-662 to enhance and rehabilitate the Upper Mississippi River system. The project area is located on Corps of Engineers fee land managed by the Illinois Department of Conservation (IDOC) and the U.S. Fish and Wildlife Service (FWS). The southern portion of the project area is contained within the Bathtown State Fish and Waterfowl Management Area (IDOC), and the northern portion is contained within the lower half of the Bathtown Division, Mark Twain National Wildlife Refuge (FWS). The purpose of the Bathtown HREP is to improve wetland and aquatic habitats for waterfowl and fish by decreasing sedimentation and improving water level control in open wetland units. Accordingly, the St. Louis District is proposing to enlarge an existing riverside (exterior) levee and an interior levee, and to construct a riverside (exterior) levee, an interior levee, five borrow areas, nine gravity drains, four overflow structures, eight stop log drainage structures, three boat pullovers, four pump stations, and two concrete pipes with gates within Dam 25 (Figure 2). The project area consists of the construction corridors of the existing and proposed exterior and interior levees, and the locations of the seven proposed water control structures to be constructed in areas undisturbed by previous construction. The total area contained in the project area is approximately 121 acres.

The study performed herein by the Contractor for the US Army Corps of Engineers is called for in the National Historic Preservation Act of 1966 (PL-89-665) as amended. Accomplishment of this work provides documentation evidencing compliance with Executive Order 11593, "Protection and Enhancement of the Cultural Environment," dated 13 May 1971, and Section 110 of the National Historic Preservation Office.

The primary objectives of the investigation were: (1) the identification, through Phase I pedestrian survey and shovel/soil core subsurface survey, of all historic properties that are potentially eligible for the National Register of Historic Places (NRHP) that may be affected by construction; (2) geomorphological investigation to document areas within the project area with

CHAPTER II. ENVIRONMENTAL SETTING

Introduction

The project area is located within the Batchtown HREP and within the Middle Mississippi River valley of western Illinois. The project area is located in the Driftless Section of the Middle Mississippi Border Natural Division (Figure 4) (Schwegman 1973). The Batchtown HREP contains approximately 321.2 ha of land and approximately 1,007.2 ha of water and is bordered on the north by the Mark Twain National Wildlife Refuge, the Mississippi River on the west and south, and dissected uplands on the east.

Regional Setting

The Batchtown HREP is located in the Mississippi River floodplain and along a narrow peninsula that separates the Illinois and Mississippi Rivers. The confluence of the Illinois River and the Mississippi River is approximately 34 km south. The project area is located along a narrow band of river bluffs and rugged terrain that border the Mississippi River. East of the project area and rising over 30 m above the floodplain is unglaciated uplands characterized by extensive stream erosion producing a very rugged terrain. Alluvial fans occur at the base of the bluffs and have been formed by the accretion of sediments carried down the steep and narrow stream valleys. The solution of Mississippian carbonates that form the bedrock in the area, has created a karst topography of sinkholes and caves.

The Mississippi River floodplain on the Illinois side at this point in the valley is narrow being less than 2.4 km wide. Local relief throughout this portion of the floodplain is less than 6 m (Clifton 1989). The first record of the course of the Upper Mississippi was made during the Marquette and Joliet expedition of 1673 (Tucker 1942). These maps known as the "Joliet Map of 1674" and the "Marquette Map of 1673-1674" provide the first description of the "R. De La Conception," a name abandoned for the Native American name of Mississippi. These early maps were nothing more than field sketches "designed by the explorers to acquaint their superiors with the territory covered . . ." (Tucker 1942). It was not until 1816 that the first transit surveys were made of the river that provide us with the first accurate maps of the river's course. By 1818, township surveyors had virtually completed the survey of the river's bankline. Additional surveys in 1832, 1847, and 1856 completed the work (Simons et al. 1975).

The floodplain within the boundaries of the management area is characterized by a low ridge and swale topography and meander scroll bars. Sloughs developed in the swales and include: Dixon Pond, Long Lake, George Bain Slough, Round Pond, Little Round Pond, Upper and Lower Flat Pond and Sand Bay. Recently, these sloughs have been flooded by backwater

The Late Archaic period (3,000-1,000 B.C.) witnessed the continuation and elaboration of the settlement and subsistence trends of the Middle Archaic period. Considerable growth in population, distinct regional adaptations, and interregional exchange systems are hallmarks of this period. Archaeological data point to a marked increase in the exploitation of plant resources. Data from the Lower Illinois River valley and other sites in the Midwest suggest that during the Late Archaic, plant domestication took place and included sumpweed (*Iva annua*), sunflower (*Helianthus annus*), and possibly goosefoot (*Chenopodium* sp.) (Smith 1987). Two Late Archaic phases, the Helton and Titterington phases have been defined in western Illinois (Cook 1976). Helton Phase sites are typically located in the floodplain along the valley walls, but Helton phase artifacts found in the uplands suggest an intensive exploitation of the uplands as well (Cook 1976) Diagnostic Helton phase artifacts include the Godar, Karnak Stemmed, and Matanzas projectiles. The following Titterington phase has been defined based on both village and mortuary sites. Diagnostic tools associated with the phase include the Wadlow and Etly projectiles.

Broad similarities exist among the Terminal Late Archaic and Early Woodland (1,200-600 B.C.) manifestations in west-central Illinois, the Illinois River Valley and the American Bottom to the south. The settlement/subsistence strategies that were established during earlier periods continued into the Early Woodland. Two developments that distinguish the Early Woodland from earlier periods are the development of a ceramic technology and an increase in ceremonialism and the elaboration of mortuary practices involving the construction of burial mounds. In west-central Illinois, the Kampsville phase Prairie Lake culture has been defined centered along the Lower Illinois River valley. These sites occur in bluff-base settings with bluff top burial mounds also occurring. Site distribution patterns suggest that Early Woodland populations were exploiting a wide range of resources with the possible seasonal movement of camps between uplands and river bottomlands (Bareis and Porter 1984:62). Faunal remains indicate the exploitation of a variety of aquatic and terrestrial species while floral remains indicate a plant harvest with nut collecting as an important constituent.

Early Woodland temporal and spatial divisions recognized in west-central Illinois include the Marion phase of the Marion culture, the Cypress phase of the Black Sand culture, and the Mound House phase of the Initial Havana culture (Farnsworth and Asch 1986:331). Previous studies along the Mississippi River have located Early Woodland sites in the floodplain (Anderson et al. 1989:19). These sites may be located on alluvial plains and on well drained sand ridges (Anderson et al. 1989:18). Subsistence data indicate the use of upland and bottomland plant species and domesticated squash (*Pepo*), little barley (*Hordeum pusillum*), and goosefoot.

The first ceramics appear in the region occur in the Marion phase. Marion Thick pottery is characteristically thick-walled and course-tempered. The vessels were typically cord-marked or fabric-marked on both the exterior and interior surfaces. Decoration includes incising and punctuates.

characterized by an increased dependency upon agriculture as a subsistence base and increased social stratification and complexity. Settlement patterns were characterized by large regional population centers surrounded by a radiating network of agricultural and special purpose sites. Large ceremonial centers, such as the Cahokia site in the American Bottom, contained flat-topped temple mounds, plazas and fortifications. These sites are thought to have functioned as central places with respect to economic and ceremonial activities.

Diagnostic Mississippian artifacts include shell-tempered pottery, finely-made Madison and Cahokia arrow points, and farming implements, including bifacial chipped stone hoes commonly made of chert from the Mill Creek quarries in southern Union County (Cobb 1992). Use of the hoes commonly resulted in the polishing of the hoe surface. Sharpening the hoes by knocking off small flakes produced small chert flakes (hoe flakes) with polished surfaces that are common at Mississippian habitation sites. The presence of hoe flakes is often interpreted as evidence of agricultural activity. Small artifact scatters containing shell-tempered pottery and hoe chips are frequently characterized as "farmsteads" or more appropriately "homesteads" (Milner et al. 1984; Muller 1978; Wagner 1986). The carbonized remains of cultivated plants, including corn, squash, sunflowers, various starchy and oily seeds, and more rarely, beans, have been found at Mississippian habitation sites (Milner et al. 1984).

Investigations of the Mississippian period in the central Mississippi River valley north of the American Bottom have been primarily restricted to the excavation of mortuary features such as those of the Schild cemetery (Goldstein 1980; Perino 1971). Mississippian use of the region appears to have been much less intense than that of the American Bottom to the south, or the central Illinois River valley. Noticeably absent are the large towns containing platform mounds. Instead, the Mississippian population appears to have been organized around a series of dispersed settlements analogous to the "fourth line" communities found in the American Bottom (Conner 1986:218-219).

Historic Background

When the first French explorers ventured down the Illinois and Mississippi Rivers, the territory around Calhoun County was in the control of the Illinois Confederacy. The Illinois Confederacy was composed of five tribes, the Peorias, Cahokias, Tarmaroas, Kaskaskias, and Mitchagamies. Initially the territory controlled by the Illinois Confederation was immense, encompassing most of the territory within the State of Illinois. By the time the French arrived in the region, the power of the confederation and the territory it controlled had been severely reduced. The Illinois were attacked from the west by the Sioux and Dakota tribes, the Sac and Fox and Kickapoos from the north, and the Iroquois from the east (Carpenter 1967:5). Of all of the tribes attacking up and down the frontier, the Iroquois afflicted the most severe punishment on the Illinois. In the seventeenth century, the Iroquois were pushing west and entered the Illinois territory attacking Illinois villages up and down the river. LaSalle described a massacre that occurred in November 1680, in what is now known as southern Calhoun County. At the site of Deer Plain ferry, near the place know known as Marshall's Landing, a group of

Tamaroa were attacked by a war party of Iroquois and 1,200 Tamaroa were killed in the battle (Temple 1966:24; Carpenter 1967:6). A description of the battle grounds based on LaSalle's dairy described a scene where the ". . . long grass had been trampled down and all around were strewn the relics of the hideous orgies which formed the ordinary sequel of an Iroquois victory" (Carpenter 1967:6). According to local farmers, skeletons and weapons have been plowed out in the fields at this location. However, it is not known whether these remains and artifacts relate to those participating in the battle or represent a burial ground unassociated with the battle.

By the later part of the eighteenth century, the Illinois Confederacy had been weakened and eventually dissolved leaving the vast territory of the Illinois country unclaimed by any native group. According to Carpenter (1967:6) a census conducted by the French in 1736 found only 600 Illinois warriors left in the territory and by 1800 the number had been reduced to 30 warriors (Carpenter 1967:6).

The Illinois territory remained unclaimed after the fall of the Illinois Confederacy and was used by various Native American groups until the influx of American settlers in the early nineteenth century (Johnson 1973). Dominate among the tribes in the Illinois territory were the Sauk and Fox. Conflict and tensions peaked during the War of 1812, between native groups, the British and American settlers. Fearing that the Sauk and Fox would align with the British, a band was "escorted" across the Mississippi River by the U.S. Army and crossed 1.6 miles south of the Bathtown Management Area (Clifton 1989; Temple 1966:106). A fort had been constructed in Missouri, across the Mississippi River from West Point ferry in the Richwoods precinct. In the summer of 1813, between 60 and 80 Indians from the northern part of the state clashed with 13 soldiers who had crossed the river from the fort. The number of Indians killed or wounded is not known, but the only soldier to survive the battle was John Shaw (Carpenter 1967:8). The following summer, another battle took place in the same area between Indians from the north, and soldiers and settlers from the fort. The war party did not attack the local settlers in Calhoun County, as their quarrel was strictly with the settlers and soldiers from the fort. Black Hawk, who later became a prominent figure in the Black Hawk War, is said to have been with the war party.

French trappers were the first Europeans to settle in the Calhoun County area. The first settlement was just above Deer Plain Ferry on the Illinois River. Flooding in 1815 prompted the abandonment of this post and a second settlement was established at Cap Au Gris in the early nineteenth century. This settlement was located at the site of West Point ferry in the Richwoods precinct (Carpenter 1967:11). According to Carpenter (1967:11), there were 20 families farming approximately 500 acres of common fields at the village in 1811. However, by 1815, the settlement was abandoned.

American settlement in Calhoun County dates from 1811 with the arrival of Major Roberts. By 1819, there were five settlements in the county (Carpenter 1967:12). Judge Ebenezer Smith arrived in Calhoun County on May 10, 1819. At the time, there was a trading post in the neighborhood operated by a French-Canadian. In furthering the settlement of the neighborhood, Smith is said to have destroyed the trading post in order to free the community

A review of the original land purchase records for the acreage contained within the Batchtown HREP indicates that the land became available for purchase in 1817 (Table 1). The land between the Mississippi River and the Illinois River, some three and a half million acres, was referred to as the "Military Lands" of the "Military Tract." The United States Government had set aside these lands to give to veterans of the War of 1812. Those who had enlisted prior to December 10, 1814 were deeded 160 acres, while those enlisting after that date were deeded 320 acres (Carpenter 1967:13). The survey of the lands was completed in 1816 and 1817, but it was not until after 1823 that much of the land was actually settled. Much of the Military Tract became the ownership of land speculators in the east who purchased the land from the soldiers. Thus, while many tracts of land were purchased at this date, very little settlement took place in the region. In 1833, for example 139 tracts of land in Calhoun County were sold for taxes, while only 34 of these were owned by the original assignee (Carpenter 1967:13).

The earliest land purchases within the Batchtown HREP are dated 1817. In October and November and of that year, eight parcels totaling 1,440 acres were purchased. Included in these was a purchase deeded October 20, 1817, to William Hopkins who purchased 160 acres in the SW1/4 of Section 6. In that same year, and on November 29, entered into the land records were two deeds, each for a 160-acre tract. John Daniels purchased 160 acres in the NW1/4 of Section 7 while Abner Loomas acquired the NE1/4. These men as the other purchasers of the time, were veterans, but it is unknown whether they actually occupied the land. Five parcels totaling 800 acres were purchased in 1818. There are no other recorded purchases within the BMA until October 8, 1830 when James Mason purchased 9.72 acres near Wilson Landing. There is speculation that Mason purchased the land with the intent of selling the timber to passing steamboats.

The majority of the land in the management area was purchased in 1817, 1440 acres (32.7%) with the next series of purchases taking place in 1818, 800 acres (18.2%). Approximately 540 additional acres (13.4%) of the land was purchased between 1830 and 1839, 487 acres (11.1%) purchased between 1840 and 1849, and 1085 acres (24.6%) purchased during a four year period between 1850 and 1854 (Table 2).

Throughout the eastern United States, during the early 1830s, an increase in land settlement and land speculation led to a dramatic increase in land sales. The adoption by banks of a policy of unlimited credit together with the inflated value of paper money had resulted in a false impression of prosperity. This led to a flurry of people purchasing land under the impression that it could be resold for a huge profit (Krenkel 1958:47). During this time, Illinois was swept by a wave of land speculation coupled with a mania for internal improvements. The amount of public land sold in Illinois increased almost ten fold within two years from 354,010 in 1834 to 3,199,703 acres in 1836. Following the panic of 1837, land sales dropped dramatically and failed to recover until the mid 1850s.

By the latter 1840s land sales again began to increase. Between 1847 and 1855 Congress authorized the issuance of warrants, each good for 160 acres, to soldiers who participated in the Mexican War and the Indian Engagements. These warrants were legally assignable and could

be purchased at county seats (Howard 1972:257). As a result, the government received nothing and land speculators invested less than \$1.25 in their land-warrant holdings. This activity was not unusual. Paul Gates, a leading Illinois historian, has found that after 1850, more Illinois land was exchanged for military warrants than was sold for cash (Howard 1972:158).

In 1852 Congress passed the Graduation Act that reduced the price of land that had been for sale for ten years or more. The price of the land was based on how long the land had been available, with the minimum price set at \$.12 1/2 an acre. Thirty percent of the acreage within the project area was originally purchased after 1852 and before 1854.

In summary, the majority of the land within the Bathtub HREP was purchased as part of the Military Tract in 1817 and 1818. During the 1850s, in the period when military warrants and low land prices spurred a flurry of land purchases approximately one quarter of the Bathtub HREP lands were purchased. The fact that a significant portion of the Bathtub HREP acreage was not purchased earlier attests to its low agricultural value. Being topographically low and subject to repeated inundation from floods, there are indications that the early value of the land came from the timber that was cut and sold to passing steamboats.

Previous Archaeological Investigations

According to the Illinois Historic Preservation Agency (IHPA), little systematic archaeological work has been conducted within the boundaries of the Bathtub HREP. Previous to the present survey, only three archaeological investigations have been conducted within the Bathtub HREP that include a literature search conducted on the entire HREP area in 1978, a 1978 survey for a boat ramp at the south end of the existing riverside levee, and an IDOC geomorphological investigation in 1987 in the southern portion of the Bathtub HREP and within the Bathtub Management Area (BMA) (Clifton 1989). The only potential archaeological site identified by the boat ramp survey (1978) was a single possible historic site.

Information provided by the IHPA indicates that there are two previously recorded prehistoric sites in the BMA. These include site 11-C-85, a Mississippian village located on an island in the southeast portion of the project area, and site 11-C-15, a Woodland village located at the mouth of Madison Creek at the base of the bluffs (Figure 5; Table 2).

Since 1985, the Illinois Department of Conservation (IDOC), in cooperation with the Illinois State Museum (ISM), has conducted a series of cultural resources evaluations at IDOC properties across the state. These evaluations have involved a literature and records review, informant interviews and field survey. The 1987 IDOC geomorphological survey within the BMA was undertaken as a part of this cultural resources management program. The field investigations of the IDOC survey involved taking a series of soil cores designed to assess the potential for buried cultural deposits below recent alluvium (Clifton 1989:76). Nine soil cores were taken ranging in depth from .45 m to 5.5 m below ground surface. The soil cores were taken with both a trailer-mounted Giddings hydraulic soil probe and a hand driven Oakfield soil probe. No evidence was found of buried cultural deposits. The study concluded that there was

11-C-208

*No evidence for structure #8
for table 3?*

Site Type: Prehistoric habitation, field camp

Component: Nondiagnostic

Site Location: SW^{1/4}, NE^{1/4}, SE^{1/4} of Sec. 36, T11S-R3W

Project Location: Construction corridor of the proposed interior levee (IDOC) crosses central portion of the site

Approximate Site Area: 140 m NW-SE x 80 m NE-SW; 8,000 m²

Topographic Location: Floodplain ridge

Elevation: 437 ft AMSL

Soil Series: Tice silt loam

Nearest Water: Mississippi River, 200 m west

Survey Method: Surface survey along transects spaced 10 m apart. Ground surface visibility in the cornfield was 75-100%.

Site Condition: The site has been disturbed to a depth of at least 17 cm by modern cultivation.

Description. Site 11-C-208 is a large, moderately dense prehistoric lithic scatter situated on a southeasterly trending floodplain ridge, approximately 200 m east of the current channel of the Mississippi River (Figure 10). The broad crest of the ridge is flanked on the southwest by a narrow, water-filled swale. The site is located along the western edge of a large cultivated field that was planted in 2-inch-high corn at the time of survey (Figure 15). The site was located and defined entirely through surface survey. All artifacts were point plotted, and a total collection of chipped-stone artifacts was made. Soils observed in a shovel test excavated in the cultivated field at site 11-C-208 consisted of a 17-cm-thick plow zone of medium brown 10YR 4/3 slightly clayey silt over dark yellowish brown 10YR 4/4 clayey silt. Soils observed in a shovel test excavated in the woods bordering the western edge of the field consisted of approximately 25 cm of very dark gray 10YR 3/1 silt loam over a medium brown 10YR 4/3 slightly clayey silt.

Artifacts. A total of 41 artifacts was recovered at site 11-C-208, all from the site surface (Table 7). The collection includes 6 chipped-stone tools, 2 amorphous cores (Figure 13A and 13B), and 33 debitage flakes. Three unmodified cobbles were also noted, but were not collected.

The tool assemblage from site 11-C-208 consists of 2 bifaces, 1 formal flake tool (Figure 16E), and 3 informal flake tools (Figure 16D). The bifaces include 1 early-stage biface blank (Figure 16C) and 1 unspecified biface that is too fragmentary to permit more specific technological/functional identification. The formal flake tool and 1 of the 3 informal flake tools exhibit steep edge-retouch, suggesting they may have been used as scrapers.

Debitage is the most abundant artifact class represented in the site collection. Approximately 42% of thedebitage consists of broken flakes and angular fragments. The overwhelming majority (84%) of the remainder of the flakes consist of biface-2 (resharpening) flakes (Table 7).

The artifact collection from site 11-C-208 contains evidence of both biface and amorphous core technology. The composition of the tool and core assemblages, and the relative frequencies of the debitage categories represented in the collection, suggest lithic reduction activities at the site emphasized by biface maintenance and repair and, secondarily, simple flake tool manufacture. Although early-stage biface reduction is represented, this activity appears to have been a relatively minor component of the tool production strategy employed at the site.

Burlington chert dominates the site 11-C-208 assemblage, representing, by count and weight, respectively, approximately 90% and 70% of the chipped-stone material from the site (Table 9). This chert type, however, accounts for a substantially smaller percentage of the assemblage by weight than by count, while the reverse is true of Indeterminate chert. This pattern suggests that the sources of the chert types relegated to the Indeterminate category may be located closer to the site than is the nearest source of Burlington chert. It is possible that the Indeterminate chert in the site collection is glacially redeposited chert that could not be duplicated in the comparative collection.

The site assemblage suggests that hunting and butchering, lithic reduction, and hide processing are activities that may have occurred at or near site 11-C-208. Although the evidence is meager, heating and/or cooking activities may also have occurred at the site.

Interpretation. Site size is large, and artifact density and diversity are moderately high suggesting that site 11-C-208 functioned as a field camp. The age and cultural affiliation of the site are unknown.

11-C-209

*No evidence
of structures
or artifacts?*

Site Type: Prehistoric habitation, field camp

Component: Late Woodland/Mississippian

Site Location: NW1/4, NE1/4, SE1/4, SE1/4 and NE1/4, NW1/4, SE1/4, SE1/4 of Sec. 36, T11S-R3W

Approximate Site Area: 70 m NW-SE x 40 m NE-SW; 2,000 m²

Project Location: Outside project area; south of construction corridor of the proposed interior levee (IDOC)

Topographic Location: Floodplain ridge

Elevation: 437 ft AMSL

Soil Series: Wakeland silt loam

Nearest Water: Mississippi River, 340 m west

Survey Method: Surface survey along transects spaced 10 m apart. Ground surface visibility in the cornfield was 75-100%.

Site Condition: The site has been disturbed to a depth of at least 18 cm by modern cultivation.

Description. Site 11-C-209 is a small, moderately dense prehistoric lithic scatter situated on a southeasterly trending floodplain ridge, approximately 340 m east of the current channel of the Mississippi River (Figure 10). The crest of the ridge is flanked on the southwest and

surface 2 m west of the test containing the flakes (Figure 17). It is likely the prehistoric component at the site has been disturbed by activities associated with the historic occupation of the site.

Soils observed in shovel tests excavated at site 11-C-210 consisted of a 22-cm-thick plow zone of very dark brown 10YR 2/2 silt loam over a very dark gray 10YR 3/1 slightly clayey silt.

Artifacts. Nine historic artifacts were recovered at site 11-C-210, eight from the surface and one from a shovel test (Table 6). Numerous pieces of large limestone and small brick fragments were identified, but were not collected. The functional categories represented in the collection are kitchen, personal, and architecture. Kitchen-related ceramic artifacts include brown annular (1830-1860) and undecorated (1830+) whiteware, undecorated ironstone (one with an English registry maker's mark dating to 1856), yellowware (1827-1940), and salt exterior/slip interior stoneware (1840-1900) (Table 6). Kitchen-related glass artifacts include improved tool cork bottle closure (1870-1915) and aqua (n=1) bottle body. Personal-related artifacts include a clay marble. Architecturally-related artifacts include limestone and brick.

Three prehistoric artifacts were recovered at site 11-C-210 (Table 7). The collection includes 2 tertiary flakes and 1 broken flake. Two of the flakes are of Burlington chert, and 1 is of St. Louis Common chert (Table 11).

Interpretation. The historic component at site 11-C-210 appears to represent a late nineteenth- to early twentieth-century farmstead. The site is located on an 80-acre-parcel that was originally purchased by Levi Turner in July 1839 (Table 1), but the temporally-diagnostic artifacts from the site suggest it was initially occupied at a substantially later date. No structures are shown at the location of site 11-C-205 on the 1891 Corps of Engineers river channel map (Chart No. 122), but Turner Landing is indicated at a location approximately ~~2~~ mile north of the site. The 1891 Corps map also shows the road connecting Turner Hollow Road with Turner Landing intersecting at the location of site 11-C-205, and depicts the area surrounding the site as having been cleared of timber. The 1931 Corps of Engineers river channel map shows four structures at the location of the site, but the 1934 Hardin 15' USGS topographic map depicts only one.

The small size of the collection makes functional interpretation of the prehistoric component at site 11-C-210 difficult. The site may represent either a limited activity site or a field camp. The age and cultural affiliation of the site are unknown.

11-C-211

Site Type: Historic farmstead

Component: Late nineteenth to early twentieth century

Site Location: NW1/4, NE1/4, NE1/4, SW1/4, Sec. 31, T. 11 N., R. 2 W.

Project Location: Inside the construction corridor of the existing interior levee (FWS)